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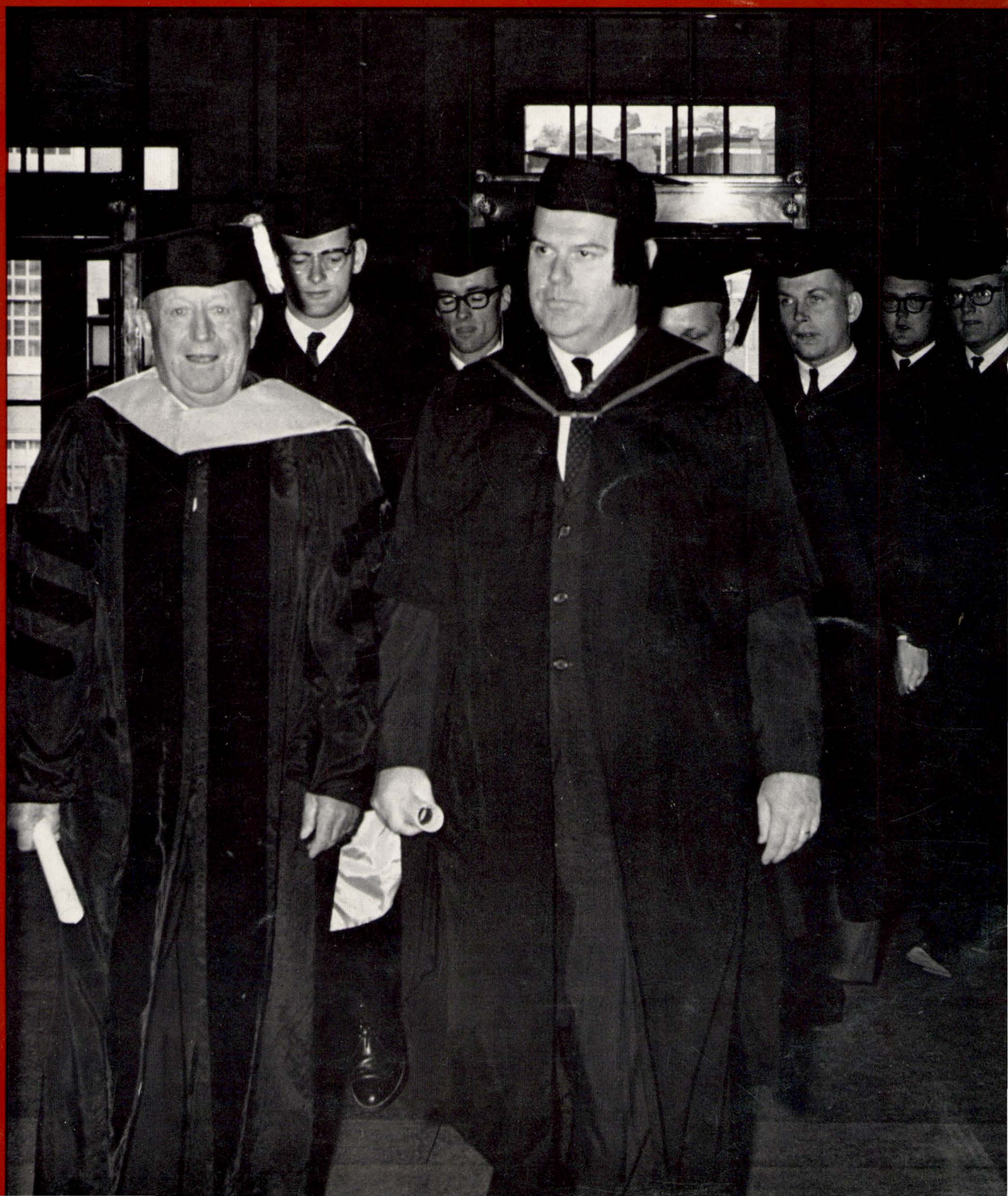
Worcester Polytechnic Institute

Mrs. Buck

The JOURNAL

WORCESTER POLYTECHNIC INSTITUTE



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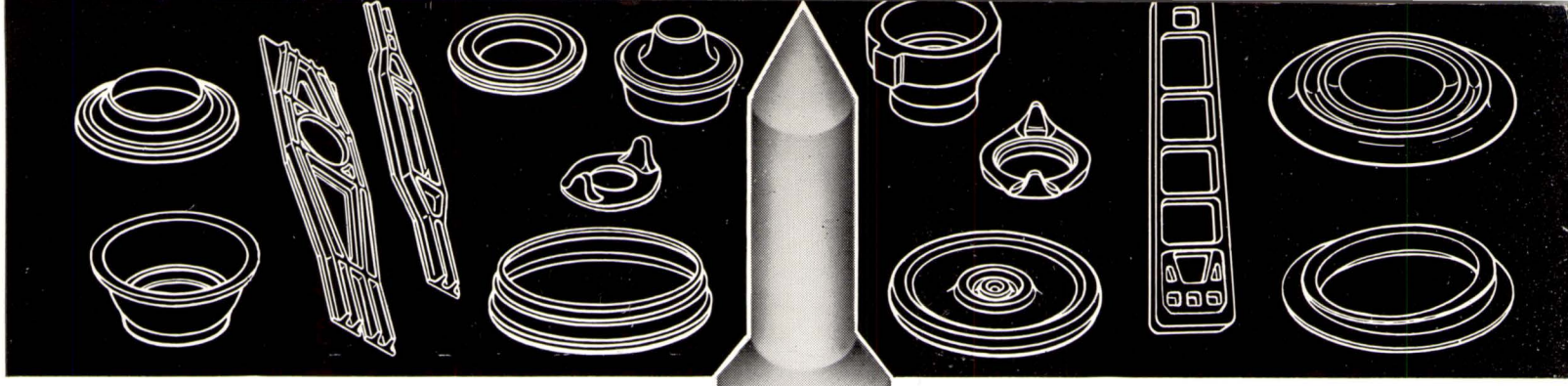

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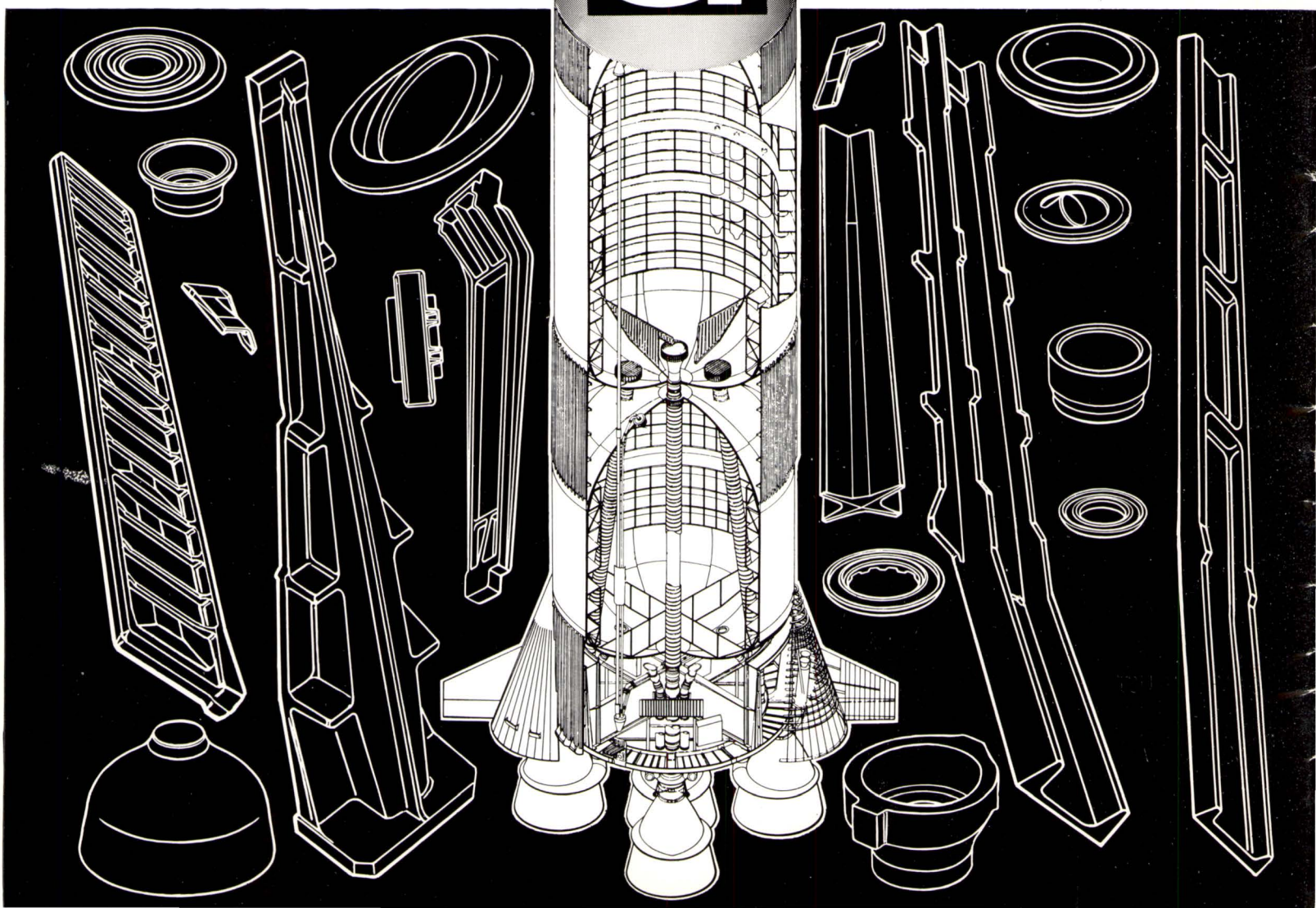

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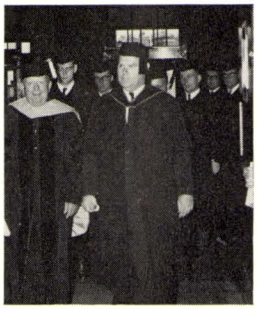

Our Cover: Earl C. Hughes, '14 (left), Honorary Marshall and Richard F. Morton, Marshall, lead the commencement procession.

The JOURNAL

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IN THIS ISSUE

"I doubt if there has ever been such a need as faces our generation to weigh and determine sane values, to decide what we stand for—and then to live actively with and for solid principle." Thus President Storke stated what was the theme of all the speakers during this year's commencement activities: the need for engineers and scientists constantly to be aware of their responsibilities above and beyond the confines of their chosen profession.

COMMENCEMENT

The 96th Commencement Exercises were held on June 5, 1964 at the Worcester Memorial Auditorium. Over 3000 attended the two-hour ceremonies at which 266 incourse students received their degrees.

Receiving Bachelor of Science degrees were 235 undergraduates: 35 in chemical engineering, 10 in chemistry, 31 in civil engineering, 75 in electrical engineering, 14 in mathematics, 55 in mechanical engineering, and 15 in physics.

The Institute awarded six honorary degrees, three of them to outstanding professors who have taught many years on the Hill. The recipients of the honorary degrees of Doctor of Engineering were Prof. Leslie J. Hooper, '24; Prof. Kenneth G. Merriam, M.S., '35; Prof. Bernard L. Wellman, M.S., '35; and Arthur T. Larned, '12.

Larned, the retired chief civil and hydraulic engineer for Ebasco Services, Inc. of New York City, was unable to attend because of illness. His son, George H. Larned, accepted his degree for him. (As we went to press we learned that Larned died on July 18.)

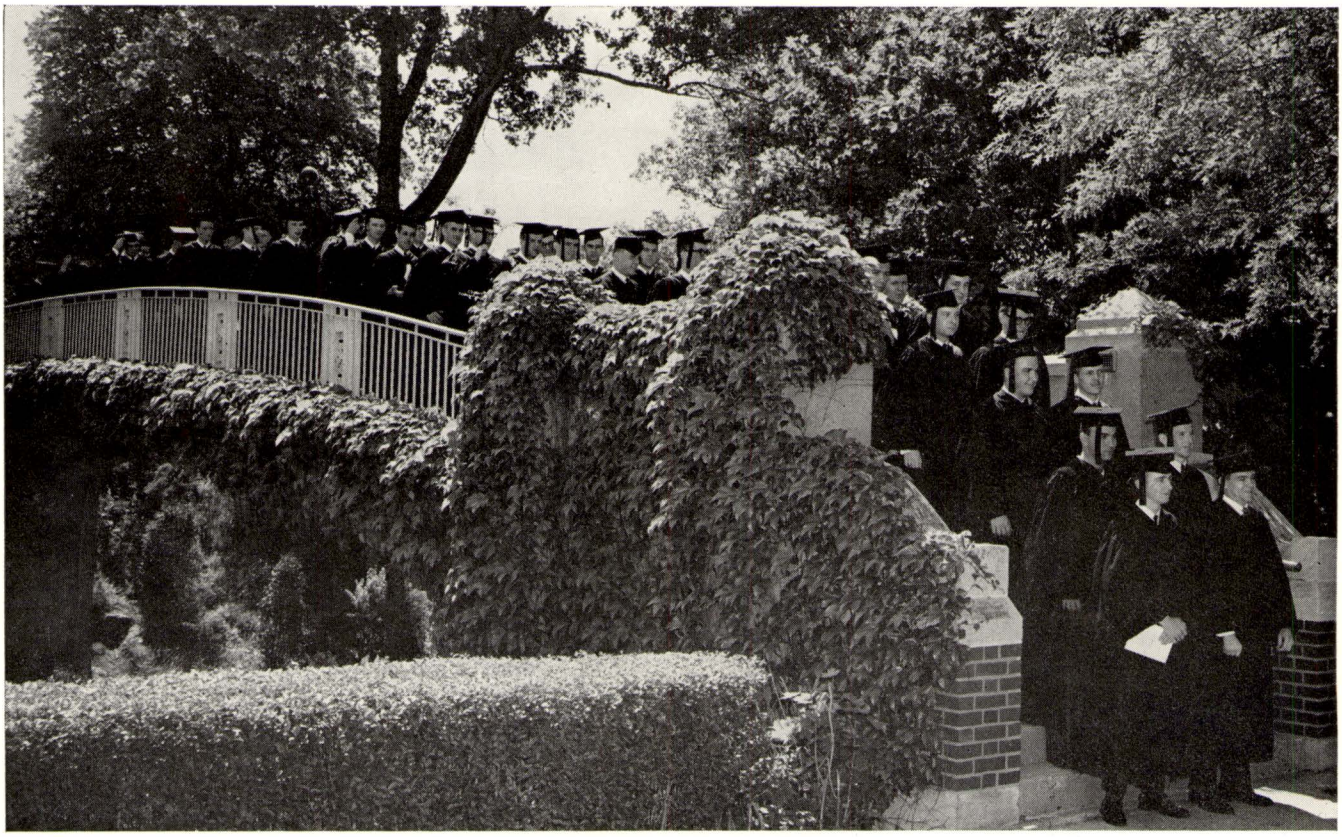
Awarded honorary Doctor of Science degrees were Dr. Charles H. Townes, professor of physics and provost of Massachusetts Institute of Technology; and Dr. Carmichael.

A Doctor of Philosophy in physics was awarded to Wayne H. Keene of Boothbay Harbor, Maine. This degree is believed to be the first such award in physics in the history of the Institute.

Master of Science degrees were awarded to 30 students.

Earlier in the day, 40 seniors were commissioned second lieutenants in the Army at ceremonies held in Alden Memorial Auditorium. The commissions were presented by Major Gen. David P. Gibbs, chief signal officer of the Army.

President Storke in his message to the graduating class stated, ". . . your future is upon you, waiting for you, outside this auditorium. You selected wisely to come to Worcester Tech, and you have benefited by having been here. We of the faculty are proud to have had the opportunity to work for and with you. . . . And work you must, for the quality engineer and scientist has to continue to keep educated on new developments these days, or else he will fall behind in



The Graduating Class on their way to Baccalaureate

Commencement—1964

the brisk and cold-blooded competition of this rapidly progressing world. 'Retread every five or six years,' seems to be the motto. You have an excellent base. You are good men. OPPORTUNITY is the rule. We say—GO—GET YOUR REWARD."

The colorful ceremonies were the highlight of three days' activity at the Institute. Starting on Wednesday, June 3, 1964, with the Senior Dinner Dance, the program seemingly rushed along to the climactic awarding of the hard-earned degrees Friday afternoon. Commencement Week, in reality only three days in duration, has been a tradition at Tech for longer than anyone cares to remember. No doubt customs have changed and some parts of the program have been added and deleted over the years. One thing has remained firm, however—the graduation ceremony itself.

CLASS DAY

After a night of supper and dancing at the Indian Meadow Country Club in Westboro, the seniors rose Thursday morning for the Class Day Exercises. Orator for the Class of 1964 was Frederick H. Siff.

Engineers and scientists are not only responsible for probing and utilizing discoveries of the physical world but for the consequences of their discoveries, he said. "We . . . will play a major role in the development of the future. We will help to develop the computer . . . and if the computer puts a number of the working force out of their present jobs, what of them?" Siff queried his classmates. "These are not questions for the social scientist and politician alone, but questions for us to ponder also," he said.

The class historian, Gary Goshgarian, added to his reputation as a humorist when he read the class history. "We were the largest class to enter Tech, walking in with 323 men and out with 235. As a body, we were never without appetite. . . . Our thirst is represented by the 1,036,800 gallons of beer we consumed, enough beer to fill a can 447 miles high. Fear not, mothers, your sons drank a bit of milk also; for to have obtained the quantity of milk from just one bovine creature, one would have to milk a cow the size of Connecticut. . . . We have swallowed over 190 pounds of No Doz tablets, enough insomnia boosters to keep a man from the bed for over three thousands years. . . . We have taken gas on 75,000 exams representing 555 miles of blue books; we have attended 3,600 hours of classes per man spending $3.55 per hour; and we have moved the hairline to our slide rules nearly 600 miles; finally, we have shoveled into the wallet of W.P.I. about $996,500 which, according to the Kinsey Multiplier Effect, would have raised the U.S. economy by $2,437,961.23. Now isn't that silly?"

The class tree was planted along a drive leading to Boynton Hall on the east campus and the class gift was announced to be a sign for the new A. J. Knight Field.

BACCALAUREATE

That afternoon the seniors gathered again, this time in a more reverent mood, for the Baccalaureate service—also held in Alden Memorial. The Rev. Dr. Wallace W. Robbins, minister of the First Unitarian Church, delivered the address. "By profession you are engineers," he said, "but what is your confession of God and of your fellow man.

"If you see the relationships, the connective power of life, you see the spirit. If you labor to make the relationships improved in love, and the connective powers stronger, you will be perfecting true prayer beyond its nursery petitions and bedtime ceremony."

Immediately following Baccalaureate President and Mrs. Storke hosted a reception held under a large tent erected on the west campus.

And so another class has passed through our portals. Most will go straight into industry, but a large number will enter graduate school. The average starting salary of the 118 who accepted jobs was $597 per month. The figure might have been higher but for the fact that 78 of the seniors decided to continue full-time study for an advanced degree.

Late Friday afternoon, on the steps in front of the massive facade of the municipal auditorium, the seniors bid their farewells. Eager to take up the challenges ahead, they doubtless are collectively an example of the best Worcester Tech can do . . . until next year.

Honorary Degree Citations

LESLIE JAMES HOOPER

Doctor of Engineering

Leslie James Hooper, Professor of Hydraulic Engineering and Director of the Alden Hydraulic Laboratory, was graduated from this college in 1924 and four years later was awarded the professional degree of Mechanical Engineer.

Throughout his professional career, Professor Hooper has conducted a dual mission, research and teaching in the field of hydraulics and fluid mechanics. In his research endeavors, a national and international reputation followed from his work in fluid flow measurements using current meters, venturi and orifice meters, and pitot tubes. His further development of the "salt velocity" method of water flow measurement, earlier developed by his predecessor, the late C. M. Allen, resulted in its acceptance as an international standard.

His work in professional societies has been outstanding. He has been an active member of the Hydraulic Turbines Power Test Code Committee of the American Society of Mechanical Engineers since 1938. In 1959 he assumed the chairmanship of a technical committee of the International Electrotechnical Commission, an organization which has been very active in establishing International Test Codes for hydraulic turbines and pumps. In recognition of his many contributions to the expanding technology in the field of hydraulics and fluid mechanics Professor Hooper was elected a Fellow of the American Society of Mechanical Engineers and of the American Society of Civil Engineers.

A wide variety of experimental research at the Alden Hydraulic Laboratory has resulted in many technical reports and formal papers which Professor Hooper has been invited to present at engineering meetings in this country and abroad and which have been published in engineering and scientific journals.

Today, Worcester Polytechnic Institute is honored to confer upon one of its graduates, Leslie James Hooper, the Honorary Degree of Doctor of Engineering.

KENNETH GERALD MERRIAM

Doctor of Engineering

Kenneth Gerald Merriam, Professor of Engineering Mechanics at Worcester Polytechnic Institute, has reached eminence as a professional engineer, scholar, educator and distinguished teacher.

For his devotion to duty and high accomplishments, Professor Merriam has received such valued awards as the Legion of Merit (United States Army), Fellow of the American Society of Mechanical Engineers, and this Institute's "Trustees Award for Outstanding Teaching."

Professor Merriam started his teaching career at Worcester Polytechnic Institute one year after graduating from Massachusetts Institute of Technology in 1922. He soon foresaw the future importance of the fledgling field of aeronautics and pioneered in developing an undergraduate program of studies in Aero-mechanics. Many of his former students have progressed to positions of great repute in aeronautical research and development.

Never a popularity seeker, but always insistent on solid achievement and a true professional attitude, Professor Merriam has implanted in his students the feeling that their grounding in basic engineering principles would enable them to meet new and challenging problems with self-reliance and confidence.

For his untiring service to this college, for his many valuable publications in the fields of aerodynamics and engineering mechanics, and especially for the indelible impressions and intellectual inspirations and aspirations he has helped to create within the minds of a forty-year lineage of Tech students, Worcester Polytechnic Institute is honored to confer upon Kenneth Gerald Merriam the Honorary Degree of Doctor of Engineering.

BERNARD LEIGHTON WELLMAN

Doctor of Engineering

Following his graduation, with honors, from the University of Illinois, Bernard Leighton Wellman became a member of the Faculty of this college in 1930. While serving as an Instructor in Mechanical Engineering and, at the same time earning his Master of Science degree, he demonstrated a strong interest in, and excellent qualifications for, a future career in the development of new and more adequate methods of instruction in the field of engineering graphics. Encouragement for his efforts and recognition of his accomplishments followed in the form of rapid promotions to the academic ranks of Assistant Professor, Associate Professor and Professor. The title of Secretary of the Faculty bears witness to his esteemed position as a senior member of the faculty. He has given unstintingly of his time and effort beyond the call of duty in carrying out countless committee and extra-curricular assignments in the best interests of the college.

Author of highly successful textbooks in the field of descriptive

geometry, Professor Wellman is recognized as an outstanding authority on the subject of engineering graphics. He has presented many papers on a wide variety of subjects.

His many contributions as a member and officer of the American Society for Engineering Education have earned for him this year the chairmanship of the Division of Engineering Graphics.

For his attainments as a scholar, author, as a teacher "par excellence," and for his distinguished service to engineering education, Worcester Polytechnic Institute is honored to confer upon Bernard Leighton Wellman the Honorary Degree of Doctor of Engineering.

Charles Hard Townes

Doctor of Science

Charles Hard Townes—physicist, scholar, educator, now Provost, Massachusetts Institute of Technology. His receipt of his Doctor of Philosophy degree from the California Institute of Technology in 1939 began a distinguished professional career which has continued uninterruptedly, and includes associations in educational or research capacity with California Institute of Technology, Bell Telephone Laboratories, Columbia University, and the Massachusetts Institute of Technology. He has served devotedly on numerous important professional committees and contributed substantially to the operation of high level boards of the Department of Defense and of the Air Force. His professional and honor society affiliations are numerous, not only in this country but in foreign lands, notably France and Japan. He has published several books and more than twenty-five professional papers, of outstanding scientific importance. He has been the recipient of numerous honorary degrees and awards by various societies, highlighted by those from the American Academy of Arts and Sciences and the Institute of Physics and the Physical Society of England. His brilliant invention of the Maser, which has enormously increased the accuracy of time measurement and made possible low noise amplification, as well as his conception of the Laser, will have far reaching effects in many fields, especially in those of communication and detection, which are just beginning to be realized and developed.

For his pre-eminent achievements in modern scientific research he well deserves highest honors, and Worcester Polytechnic Institute is privileged to confer upon Charles Hard Townes the Honorary Degree of Doctor of Science.

Dr. Leonard Carmichael

Doctor of Science

Leonard Carmichael — scientist, psychologist, educator, author. In a busy and productive lifetime of service, he has achieved eminent distinction in every field with which he has been associated since he received his Doctor of Philosophy degree from Harvard in 1924.

The field of science has known and respected him not only for his achievements in psychology but also in biology, sensory physiology, and human resources; in these fields he has contributed or edited numerous scholarly works and papers. In psychology his many important offices and affiliations include Director of the National Roster of Science and Specialized Personnel, and research consultant for the Departments of the Army and of the Navy, and are probably best epitomized by his Presidency of the American Psychological Association. As an educator he was President of Tufts College from 1938 to 1952, has been Chairman of the American Council on Education, and is a trustee of George Washington University, Tufts University and Brookings Institute. His ten exemplary years as Secretary and Director of the Smithsonian Institution ended with his retirement this winter. But immediately he accepted the Vice Presidency for Research and Exploration of the National Geographic Society, thus beginning another career of service in a field in which he is eminently qualified and adapted.

In view of the many distinguished contributions of Dr. Leonard Carmichael to contemporary society, Worcester Polytechnic Institute is honored to have this opportunity to bestow upon him the Honorary Degree of Doctor of Science.

Arthur Thomas Larned

Doctor of Engineering

Arthur Thomas Larned—distinguished civil engineer, loyal son of Worcester Polytechnic Institute. Since graduation here with his Bachelor of Science degree in 1912, he has progressed steadily through the field of hydraulic engineering, specializing mainly in the design of complete hydroelectric developments, including dams, tunnels, flow lines, penstocks, surge tanks, and heavy foundations, until he has become well recognized as a foremost authority in that important field. Since 1912 he has been associated with Ebasco Services, Inc., and during his sixteen years there as Chief Civil and Hydraulic Engineer, he was in responsible charge of the design of sixteen hydroelectric stations. He has authored numerous technical papers and articles not only on hydroelectric but also on steam electric developments, and in 1935 won the James Croes Medal of the American Society of Civil Engineers for his writings. He is a member of many prominent engineering societies. Through the years he has been a faithfully participating alumnus.

In view of his many outstanding accomplishments during his dedicated career in the field of engineering, Worcester Polytechnic Institute is proud to confer upon Arthur Thomas Larned, the Honorary Degree of Doctor of Engineering.

President Storke's Message to the Class of '64

GENTLEMEN OF THE CLASS OF 1964:

Important though today is for all of us here, for you gentlemen it is truly unique. It marks your long anticipated emergence from relative studious isolation through that doorway to infinite possibilities. We believe you are well prepared to take this decisive step orward, and we are happy with you. Yes, we will miss you. As a class, we congratulate you for your campus leadership this past year. We have been pleased by your scholarship records; we have been impressed by your fearless intellectual curiosity; we have enjoyed the quality of your *Tech News*, as it so earnestly sought for the truth; we have all benefited by speakers from off the Hill to broaden our perspective; we were proud of our College Bowl team; we have even been intrigued by your gallant consideration of the fair sex, in its specific application to cheer leading. Over-all, we are almost as proud of you as you are of yourselves.

Today there is no dearth of OPPORTUNITY for the college graduate. A cynic recently said that we of this older generation have left plenty of grief, plenty of problems, on your door-step. But, paradoxically, a problem can become an OPPORTUNITY. Remember the pessimist who said, "There's a big, bad wolf at the door," while the optimist chortled in high glee, "Well, well, there's my new fur coat." We don't need to concur with either extremist; let's just say there are a few lively challenges facing us. Such as:

Item: War or Peace? War could ruin our humanity. Peace can be a feasible millenium, but unilateral disarming is not the approach to it.

Item: Democracy, Socialism or Communism? We still prefer personal freedom.

Item: World esteem for the United States. We've found that dollars can't buy it.

Item: Civil Rights. We'd better not filibuster much longer.

Item: Morals. Are we moving as fast toward amorality as some seem to think?

And so on and so on.

"Is there any hope?" anxiously asked the woman at the bedside of her husband. "Madam," answered the doctor, "that depends on what you're hoping for."

In future years, you as a mature citizen are going to have many OPPORTUNITIES to deal, at least indirectly, with such vital matters. I doubt if there has ever been such need as faces our generation to weigh and determine sane VALUES, to decide what we stand for—and then to live actively with and for solid principle. You should start now to evaluate yourself, maybe re-orient your own ideas, so that soon you can be a mature, participating citizen, helping to lead gainfully in your community, when problems of importance are before it.

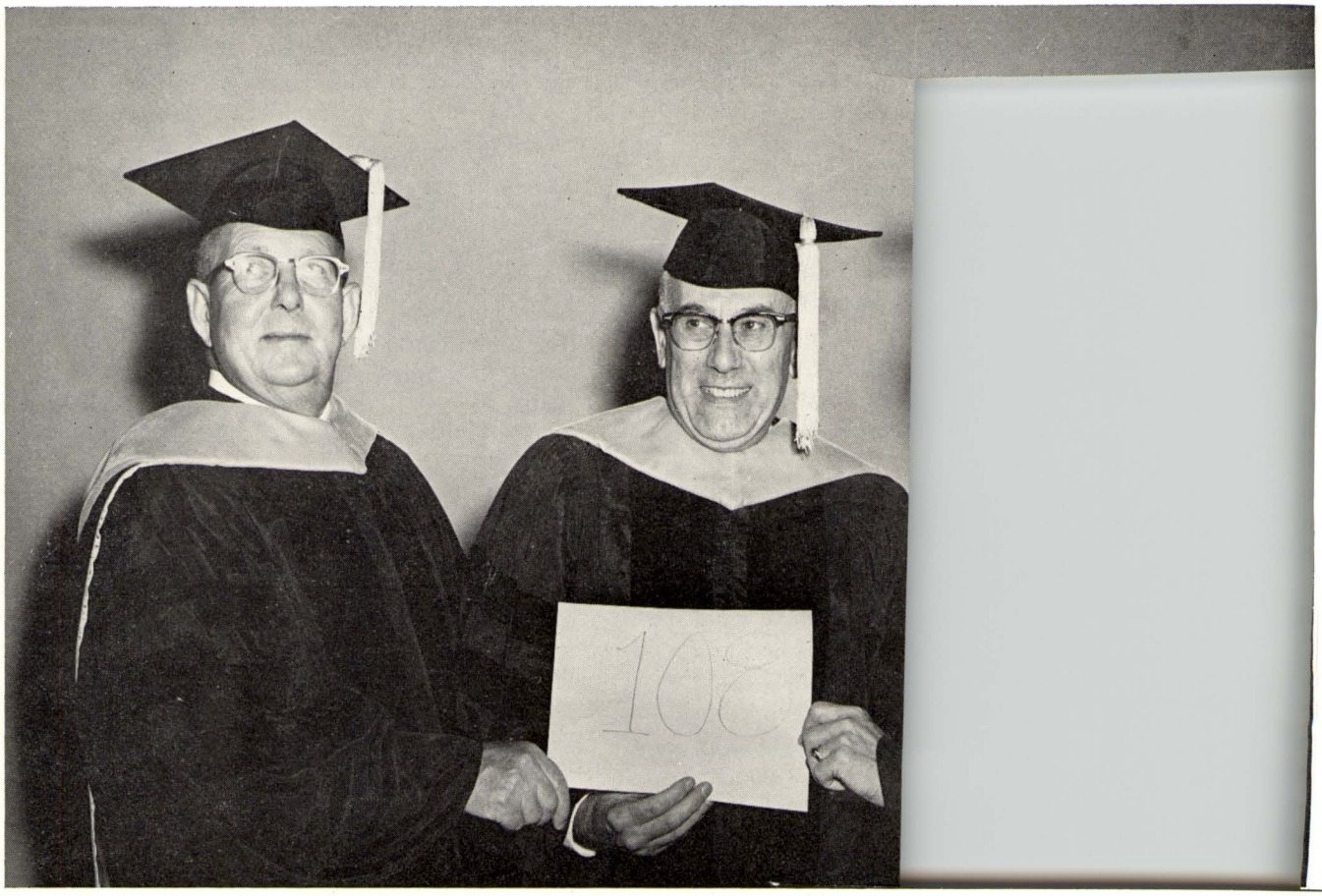
So much for a few of the general issues. What about those closer to you?

Closest at this moment, the education field offers a wide diversion of OPPORTUNITIES. We are glad that 30 percent of you Tech alumni are going directly into post-graduate work. For intellect of your caliber there is great national, and world, need. Higher study is a demanding and greedy taskmaster, but its requirements and its rewards are well worth devotion to it.

And then the educator, far from his step-child status of past generations, has become a vital necessity in the United States community, as we look ahead to the forecast record number of seven million students to be attending college in 1970, whereas last fall we had only 4.5 million. We can but hope that many of you will later decide to join the ranks of educators. Certainly the teaching profession offers a completely rewarding career of devotion, from the deeply satisfying points of view of helping to develop young and curious and alert minds, of getting to know young people, of dedicating one's life to assist them. As you will agree—they're worth our best efforts.

In this general connection I mention the defense profession. Some of you as Reserve Officers of Army and Navy will be going on active reserve duty, perhaps later become regular officers. Such patriotic devotion to defense of liberty in the United States and in the free world is still a vital necessity, as long as our Communist antagonists continue bellicose and ready to make vicious action against any nation which allows itself to become defenseless or weak.

Then, when we dream toward upper income tax brackets, we bring to mind science and engineering, in which subjects you Tech graduates have received an indoctrination and, we sincerely believe, an initial education. What follows, I say, looking squarely into the teeth of two recent prominent news articles, both of which discussed unemployed scientists and engineers walking the streets. Yes, this is happening in the defense industry fields now. But this cutback in defense



108 years of teaching at Tech, (left to right) Professors Merriam, Hooper and Wellman

industry is only an economic phase, of so-called "frictional unemployment," which might have been expected eventually. Adjustment will follow, since other industry, not defense contract-dependent, has needed for some time the quality scientific and engineering talent that has been pre-empted by the industries mainly dependent on glamorous defense contracts. You may quote me: Normal industry will always have a need for the Worcester Tech type of broadly trained scientist-engineer who adapts himself to conditions and is willing to work and apply himself.

Yes, the fields of science and engineering are rich in OPPORTUNITIES. Certainly, the scientist is in the midst of ascending fame and popularity, with untold developments awaiting his intellectual probing. Science has arrived at the status it has long deserved. It has been said that of every 10 scientists the world has ever known, nine of them are alive today. And we can feel proud that the United States is a leader in world scientific re-birth, for peaceful pursuits, every bit as much as for defense efforts.

The engineer picture needs review. The engineer, we recall, has always been essential to this world. He has created countless monuments and boons to mankind: the Pyramids, the irrigation systems of the Tigris-Euphrates valley, the Archimedes inventions, the Angkor Wat civilization, the Panama Canal, modern mechanization, bridges, towns, etc. In fact, it can be truly said that the engineer has marked the steps of progress of civilization more surely and lastingly than they have ever been pegged by kings or conquerors or diplomats, through the ages. Over-all, the engineer has established for himself a background reputation for being essential, efficient, dependable and—quiet.

Today, to judge from the steady upward trend in our Gross National Product into the $600 billion area, the United States continues to advance confidently in our general economic programs. To that pattern, the engineer has been an essential contributor, from the start of the American Industrial Age, into automation, into this great age of scientifically-bent Industry. Today, 90–95 percent of the effort required to prepare and finally send a space missile from the pad at Cape Kennedy is engineering work, pure and simple. Similarly, in the Jet Propulsion Laboratory, that citadel of science, two-thirds of their 1000-odd technical employees are engineers. In visualizing a healthy, progressive United States of the future, one naturally

expects to find the engineer playing his typically essential role, side by side with the scientist. Again, I [redacted] practically indis- [redacted] siness of the United

there are steadily professional engi- [redacted] eing born into this [redacted] tically toward two [redacted] d *Democracy*. The young countries is [redacted] oresaging as it does [redacted] ard improving the [redacted] chines, technology, irrigation, and on [redacted] opportunity to give [redacted] here is challenge of

[redacted] ts to what Admiral [redacted] ant when he said, [redacted] eer." While those for the most part [redacted] g of the word, do [redacted] give personally to [redacted]. Perhaps you, an [redacted] ay, might benefit [redacted] hem some idea of

the respect we Americans hold for the Dignity of MAN, perhaps demonstrating to them by example a basic understanding of the Freedom of MAN. As one African leader has so well said it: "What we want from science is the answer to the witch doctor."

To summarize, your future is upon you, waiting for you, outside this auditorium. You selected wisely to come to Worcester Tech, and you have benefited by having been here. We of the faculty are proud to have had the opportunity to work for and with you. Now you Tech alumni really start to work for yourselves. And work you must, for the quality engineer and scientist has to continue to keep educated on new developments these days, or else we will fall behind in the brisk and cold-blooded competition of this rapidly progressing world. "Retread every five or six years" seems to be the motto. You have an excellent base. You are good men. OPPORTUNITY is the rule. We say—GO—GET YOUR REWARD.

And now, for and with Trustees and Faculty and Administration of Worcester Polytechnic Institute, as well as for your college brothers whom you leave behind, I extend to the Class of 1964 our heartiest congratulations, and our best wishes for all that future success and happiness which *you* so well deserve.

Godspeed, '64.

Maj. Gen. David P. Gibbs (left) presenting a U. S. Army Commission to 2/Lt. J. Michael Anderson (right), President Storke looking on.

Commencement Address:

HUMAN FACTORS IN ENGINEERING

by Dr. Leonard Carmichael

I am deeply grateful to have been made an honorary alumnus of this fine institution. All over the world, wherever truly distinguished higher education is recognized, the Worcester Polytechnic Institute is revered. It is respected because of its outstanding faculty, the high academic quality of its student body, the distinction of its graduates, and because of the importance of its programs of instruction and the results of its research. So again, may I express my thankfulness for having been made an honorary member of so fine a family.

Just three weeks ago the *New York Times* reported that Mr. Thomas Watson, Jr., Chairman of the Board of the International Business Machines Corporation (and I may whisper, once an undergraduate student of mine), had made an important announcement. He made public that his corporation had given five million dollars to Harvard University for a ten-year study of what technological change and automation do to man and his institutions. This is indeed an important benefaction. It is to support work in what seems to me to be an area of great and growing significance for all of us.

Whether we like it or not we Americans who are active in this year 1964 must live the rest of our lives and die in an environment that is in many ways machine-dominated. This is true if we are rural or if we are urban dwellers and whether we spend our lives as civilians or in military uniforms.

As we adjust ourselves to a society in which men weigh problems such as this and invent and program new processes of automation and use increasingly effective and complex machine systems, the need to understand the basic laws that govern the man-environment relationship in a quantitative and scientific way becomes increasingly clear. Mechanical and electronic engineers use mathematics and the known facts of physics and chemistry as they design and develop the very machines that are always changing our human ways of life. In a similar way the established facts of the life sciences are important for all whose work in life requires them to keep abreast of changes in the devices that make technological development possible.

There is almost a paradox in asking who is the winner in a race between man himself and the mechanisms that men make, as has just been noted about spacecraft. But some facts must be remembered. Generations come and go without important changes in human anatomy or physiology but each year faster, stronger, more ingenious, and yes, let us face it, more human Frankensteins are created while man's basic capacities remain the same. In 1909 at the first Gordon-Bennett air race the winning plane had an average speed of 47 miles per hour. Today, speeds of more than 15 times this rate are not uncommon. But the accurately measured average speeds of the reactions of the human eye, the human nervous system and human muscles have not changed by a millisecond since 1909. It then, as now, required at least one-fifth of a second for a human eye to initiate activities leading to muscle response after novel stimulation. Not only has human reaction time not changed since 1909 but there is no reason to believe that it has altered since about 3500 B.C. when the Sumerians began to make metal weapons. One of the guards of the city of Ur could almost certainly respond as rapidly in casting his spear at an enemy's head just as it rose from behind a barrier as will modern Gemini astronauts alter the course of each spacecraft as it prepares for a rendezvous with another spacecraft in orbit.

Man, in spite of his unchanging cell complexes and his fixed organ systems, must play ever new roles in relation to an always changing environment such as that presented by the new machine systems of the present day. Men and women, however, must never be thought of as nothing more than protoplasmic links or units in these complex systems. In many new automatic devices human brains are needed, as the terminology of today puts it, to process, to store, and to transmit signals and also to deal with novel and changing patterns of stimuli, to relate new patterns to each other, and above all, to make certain types of decisions. But the possessors of these machine-needed eyes, ears, and brains are also citizens and parents.

Let us think of successful, happy men and women in America today. For instance, take any typical city business or professional man as an example. He ordinarily has special skills and a field of work which justifies his existence to his employers, to himself, to his associates, and to his country as a productive citizen.

He probably has a hurried but pleasant home life. The welfare of his children is paramount to him. His actions are guided by ethical standards which he steadfastly accepts although he may or may not always be able to describe the ethical systems to which he adheres in abstract terms. He may find in religion a satisfactory explanation of the ultimate meaning of life and a continuing sure guide to moral judgements and to the relationships that he knows should exist between himself, other human beings and the universe itself. Most such persons are interested in recreations. They play and watch games and spend money on hobbies. Not a few recognize the importance of reading and the enjoyment that comes from the participation in music, painting, the theatre, motion pictures, radio, television, hunting, fishing, and a thousand other activities. Such is a thumb nail sketch of the lives of many of the drivers of the cars some of you met this morning on the Massachusetts Turnpike or that I met on Route 9.

Today, therefore, the efficiency engineer, the human factors engineer, the physiologist and the psychologist must always remember that the human beings with whom they deal are complexly motivated men and women of the sort just described. People are required as protoplasmic components in many complex mechanical and electrical systems, but no matter how expensive, how complicated, or how important such non-living systems may be its protoplasmic link still is not an isolated brain but a full, warm human being. All workers, even those who operate the most complex computers, are real persons. To alter Shakespeare a little can it not be said of each modern man who directs "man-machine systems":

> Hath he not eyes? Hath he not hands, organs, dimensions, senses, affections, passions?

When physiologically trained scientists first dealt with so-called "unchanging human nature" in a modern industrial setting, some basic misunderstandings arose. At the very start of so-called "scientific management" certain time-and-motion study experts introduced procedures that did indeed speed up output. Unfortunately, however, these procedures did not always simultaneously provide a corresponding increase in money compensation or permit added rest periods for the newly pressured workers. The negative attitudes engendered by a few of these false starts still influence some workers and workers' organizations in their attitudes toward real improvements in modern industrial operations. Proper work simplifications, a good arrangement of machines, and the effective timing of operations do indeed increase efficiency, reduce fatigue and lessen the danger of accidents, but the old suspicion that some of these changes are not to the worker's personal advantage lingers on. It is important through proper education to make it clear to all that the preplanning of functions now makes work more pleasant and less tension-producing. Today, therefore, properly conceived of developments that have grown out of the old-fashioned time-and-motion studies can do much to make industrial operations humanly better than they were in what may legitimately be called the "bad old days." Science now can be effective in planning human work to the true advantage of all labor.

Years ago, to take but a single example, it was discovered that in a particular cotton folding operation by the use of scientific procedures the number of movements could be reduced from 30 to 12. The result was that instead of 125 dozen pieces, 400 dozen pieces were folded in the same amount of time. No increase in fatigue was reported. Considered alone this achievement is impressive. It would have been more lastingly valuable, however, if when it was introduced the workers concerned had been fully convinced that the new procedure was really advantageous to them as people and not alone better for that vague group called "management."

The abolition of needless stooping, the provision of proper seats, backrests, footrests, and many other changes now contribute to effective, non-fatiguing and safer industrial operations. It is, thus, recognized by all modern leaders in this field that improvements in the efficiency and the development of procedures that prevent the occurrence of accidents depend on scientific studies of the human factors in the work that is to be done. No one in this audience now needs to be reminded that adequate illumination, posture shifts, good ventilation, proper temperature control, clean restrooms, effectively assigned rest periods, yes, probably also coffee breaks and even at times, soft music can contribute to the prevention of accidents and to an increase in overall efficiency. Such additions to human comfort add to the real enjoyment that should always be as close a concomitant of all work as possible. The very wide range of modern research studies on working conditions and efficiency is well illustrated in the activities of the Ergonomics Research Society of England of which I have the privilege of being an honorary member. This society publishes in London a magazine that is important for all who are interested in this field. It is called "Ergonomics: Human Factors in Work, Machine Control and Equipment Design" and it presents the reports of scientific research studies in this area. A recent issue has articles on such topics as Attention and Distraction, The Lighting of Work Places, Team Performance, Man-Machine Systems, and Rest Pauses and Inspection Efficiency.

It may seem from the examples that I have cited that in regard to increases in efficiency and prevention of accidents that human nature is changing rather than unchangeable. This, of course, is in certain ways true.

To put this in another way, the most important and unchanging fact of human nature is that human beings do also have a unique capacity to change, that is, to learn and to modify many aspects of their present behavior as a result of planned or unplanned past experience. Man has an inborn and "unchanging" ability himself to direct some of these changes. Education, training, and the trials, the errors, and the successes of life all act to use a modern term in different ways as positive or negative reinforcers to "shape up" desired adaptive alterations in performance or to establish undesired and even pathological ways of acting.

Electronic engineers have been able to devise memory units in modern computers. Experimental psychologists have demonstrated over and over again that cats and dogs, rats and pigeons, and even worms, can be taught surprisingly complex habits. But normal adult human beings are unique in being able to use complicated oral language, mathematics, and written symbols in learning, and thus, profit not only by their own individual experiences but also by all the known and worthwhile past achievements of the human race. It may well have been this difference between man and all other mammals that the great French philosopher and mathematician Descartes had in mind when he wrote in 1650 that all animals except man were in some sense machines. Clifton Fadiman recently in the *New Yorker* summarized this by saying:

> "Said Descartes, 'I extoll myself because I have a soul and beasts do not.' (Of course, he had to put Descartes before the horse.)"

Even such puns as this emphasize the importance of language and thought in making men what they are. Every human factors engineer should repeat over and over again to himself that the fellow human beings with whom he is working and about whom he is writing are indeed "unchanging" in certain respects, but in other ways there is no limitation in their originality or in their capacity for ever new and ever greater achievement they may show. We may biologically be unchanged since before the time of Moses but we modern men and women are intellectually and spiritually what we *are* because of all the great achievements of innovators like Aristotle, St. Thomas Aquinas, Sir Isaac Newton, Rembrandt, and Einstein.

In conclusion, it may be said that the scientific student of the unchanging characteristics of human nature should begin by recognizing every aspect of the aspirations and the attitudes of free human individuals as well as the quantitative, established and important facts about human reaction times, the dark adaptation of the human eye, and a thousand other specific physiological and psychological facts about living modern men and women.

If we are to have an ever better society, and if we are to live comfortably with our continuously new and more complex computers and automatic machines, we will need leaders in many special phases of life. Scientists and technologists, of course, will be required in ever increasing numbers. But so also will be managers who know how to transform symbols on paper into action. For many years to come and possibly forever society will also depend on those who are skillful in physical labor. Above all, the increasingly machine-dominated future must not forget the age-old truth that where there is no vision the people perish. Thus in every generation special attention must be given to the nurturing of the education of leaders in the arts and those who are skilled in fostering in their fellow men the subtle aspects of human nature that are properly called spiritual.

Taped programs and electronic data storage devices cannot keep people as they move from youth to old age from experiencing almost every joy and sorrow that all the novelists and poets of the ages have described. It may also be noted that every time we improve a machine we increase our need for the kind of good modern management which certainly is often dependent on a broad and adequate education. One characteristic of such an education, it is hoped, is that it helps all to understand mechanisms better and also to think of human beings as real people.

The modern sciences that study man may thus unquestionably improve efficiency and safety in the new and always changing industrial and agricultural world that lies ahead. When properly applied such knowledge helps in achieving greater production and also more fundamental and more lasting happiness.

It may be emphasized that there is still much that science must learn about man's inborn unchanging human nature and about the basic ways in which people differ and can be improved and educated. It seems appropriate, therefore, that all of us who are interested both in efficiency and in human happiness should do all that we can to foster a continuation of the scientific study of human nature. Proper quantitative research by physiologists and appropriately trained engineers is thus one sure way of advancing the welfare of mankind. Studies of this sort will help us keep the ever more aggressive and I think I may say more impertinent electronic and mechanical robots of our age as our servants and not allow them to become our rulers or governors.

To sum it all up, young graduates, no matter how much you now know about the pure and applied physical and chemical sciences do not forget that society will rightly expect you to also be wise and humane as you practice the great constructive professions you have learned in this great center of higher education.

REUNION - 1964

If you were from the Class of '96 and had ridden for several days in a cross-country bus, you found yourself sitting most of the morning enjoying the comradeship of old friends. If you were from the Class of '64, you were walking about most of the morning sipping coffee and looking for a familiar face. If you were from the Class of 1914 or 1939, you were in the midst of one of the most significant moments in your alumni experience at Tech—your 50th or 25th reunion. If you were from any of the "five-year classes" holding reunions this year, you were also caught up in the activity. And if you were an alumnus of W.P.I., whatever class you might be, from '93 to '64, you took some time during that first Saturday in June to recall for yourself or reminisce with a fellow alumnus about those few years you once spent on the Hill.

The honors for those who travelled the furthest distance went to Ernest Mosman, '96, of San Fernando, California; Edward C. Bartlett, '14, of Tryon, North Carolina; Stuart G. Leonard, '14, of Orange City, Florida; George Ross, '14, of Greenville, South Carolina; Willard A. Gallotte, '24, of Bellevue, Washington; Harrison K. Brown, '39, of Huntsville, Alabama; Robert B. Mirick, '39, of St. Paul, Minnesota; John T. Rushton, '39, Sutter Creek, California; and Frans Strandberg, '39, from the Bahamas.

The oldest class represented was 1893 by youthful Robert S. Parks. Other members of the Old Guard present besides Messrs. Mosman and Parks were: Lester W. West, '00; Joseph W. Rogers, '01; and Albert L. Bliss, Winthrop G. Hall, and William A. Jordan, '02.

The first alumnus registered at 9:00 a.m. Soon after the rush was on and before it was over more than 500 had signed in.

The morning hours were occupied with campus tours, class pictures, an informal band concert and coffee and talk, the latter two being the mainstays of any reunion morning.

The annual meeting of the Fifty-Year Associates was called to order at 10:30 in the Daniels Hall Lounge. Here, in the room where the Sisson Mural depicts the 100-year history of Tech, the Old Guard gathered for its deliberations. The minutes of the meeting are found on page 18.

At noon, with the band in the lead, the Reunion Parade got underway. The Class of '39 was first in line followed by 1914. After a "short" walk around the west quadrangle they entered Morgan Hall dining room for the Alumni Luncheon and the annual meeting of the Association.

The invocation was given by Rev.

Winthrop G. Hall, '02, and everyone was seated. Following luncheon the annual meeting of the Association was called to order by Vice President Allan F. Hardy, Jr., '35, who chaired the meeting in the absence of Raymond J. Forkey, '40, retiring president of the Association. Incidentally, President Forkey's excuse was a good one—his daughter was graduating from Smith College that weekend.

First on the agenda was the passage of the amendments to the Constitution and By-Laws which had been mailed to all alumni in May. Upon a motion duly made and seconded, Vice President Hardy called for the Ayes and Nays. The amendments passed without dissent.

President Storke extended greetings to the gathering and told of the events of the coming Centennial Year. "I hope to see you all again next fall," he said, "at the opening of Tech's second century." The president then performed what he considers one of his most pleasant duties—the awarding of the 50-year diplomas.

At a special table just to the left of the speaker's rostrum sat an illustrious group of Techmen. They had two things in common; one, they were all past presidents of the Alumni Association; and two, they were all *uncommon* men. One by one they were called to the rostrum by Vice President Hardy to receive a citation and award which in the future will be given to all presidents upon their retirement.

Those past presidents receiving recognition were: James J. Shea, '12; George C. Graham, '13; Harry B. Lindsay, '13; Helge S. Johnson, '24; Phillip R. Delphos, '26; Andrew L. Wilkinson, '28; Arthur W. Knight, '29; A. Francis Townsend, '31; and Charles R. Michel, '37. In absentia: Charles M. Lyman, '21; George A. Walker, '22; Daniel F. O'Grady, '30; and Raymond J. Forkey, '40.

The high point of the program followed: the presentation of the Robert H. Goddard Awards by Wayne E. Keith, '22, chairman of the Board of Trustees; and the presentation of the Herbert F. Taylor Award by Vice President Hardy.

The Goddard Awards, given in recognition of outstanding professional achievement, were received by George E. Feiker, Jr., '39, and Charles Hollerith, '17. The Taylor Award, for distinguished service to the Institute, was received by Arthur W. Knight, '29. The citations are printed in full on page 17.

Roland H. Dufault, '14, on behalf of the 50-year class, announced the class gift to the Institute. The gift amounts to $20,117.20 and is to be known as the R. L. Keith Memorial Fund, in memory of our deceased classmate, he said. The principal of the Fund will be set up as part of the Institute's endowment funds and the annual income will be credited to the Alumni Fund in the name of the Class of 1914 and then transferred to the Institute for its unrestricted use.

Albert J. Raslavsky, '39, president of the 25-year class, announced that its gift would be used by the library for the purchase of books in the field of liberal studies. He noted that the goal of $2500 had not yet been reached but that the class expected to reach it in the near future.

Bringing greetings from the graduating class was President Barry J. Kadets, '64. In an unprecedented move, he announced that '64 was also making a gift to the Alumni Association. A check for $100 was presented for inclusion in the Alumni Fund for unrestricted use.

After the singing of the Alma Mater and the benediction, the reunion luncheon was over for another year.

Lest any of you think that only this one day comprised the festivities, read the accounts of the many class reunions starting on page 18. They are additional testimony to the success of the weekend.

TRUSTEES MEET
TEN YEAR PLAN APPROVED

At the annual meeting of the Corporation held on June 6 the Board of Trustees approved a modification of the corporate structure of the Institute.

Final action was taken on amendments to the by-laws authorizing an increase in the number of trustees from 30 to 35 and a raise in the value of the charter holdings in real and personal estate from $25 million to an amount not to exceed $100 million. These by-laws had been previously approved by the Massachusetts Legislature.

Wayne E. Keith, '22, chairman of the Board, presided at the meeting. Prompt action was taken on the Ten Year Plan involving the economic and educational aspects of Tech during the next decade.

A major item of interest on the agenda was a discussion on whether compulsory ROTC for freshmen and sophomores is in the best interests of the student body. This issue has been the subject of several editorials in *The Tech News* during the past year in which the newspaper has taken the position that the ROTC program would be strengthened if the course were voluntary.

The Trustees decided to appoint a faculty committee to study this matter and make recommendations to the Board. It is expected that the committee will await congressional action on pending legislation which will clarify the ROTC program prior to making recommendations.

Elected to the Board of Trustees for a five-year term was Albert M. Demont, '31. Helge S. Johnson, '24, was elected to fill the unexpired term of the late Carl W. Hedberg, '15. Re-elected to five-year terms were Archibald B. Hossack, '12, who passed away on July 2, and Charles R. Michel, '37.

Johnson was also elected to the Executive Committee of the Board.

Excerpts from President Storke's Report to the Board of Trustees

We continue to try to understand more clearly the guidance into the future with which our crystal ball is attempting to provide us—a most interesting and challenging process, naturally. Overall, at this time we can only say that we become more and more confident of our future status in the educational world, and of the general directions in which we are pointed to achieve that future, no matter which of our several "guesstimates" will or will not prove out eventually. In other words, we believe our planning is in major aspect sound and practical.

Our faculty is spending much time and constructive effort in studying various improvements in our curricula; in particular we are seeking to formulate some really "unique" features which will meet requirements for public appeal, obviously so necessary these days, no matter how solid an educational program is in actuality. One faculty committee has been very active in a thorough study of the curriculum of the freshman year. Another committee has been studying the ways in which our programs in Chemistry, Physics, and Mathematics can be strengthened. Still another committee has begun a long-range curriculum study of Goals of Engineering Education in cooperation with the American Society for Engineering Education.

You will be pleased to learn of outstanding honors recently conferred:

Professor Carl F. Meyer, '22, was honored at the Annual Faculty Dinner on May 11 as the Outstanding Teacher of the year.

This year's *Peddler* was dedicated to Prof. Richard N. Cobb, which was another well-deserved tribute.

Mrs. Bonnie-Blanche Schoonover is retiring this June after 22 years as Librarian, and has been awarded the Emeritus title for her years of devoted service.

Our Chairman, Wayne Keith, was a very military figure as on 23 May he was appointed Honorary Colonel of the ROTC Regiment, in recognition of his splendid services to Tech.

Progress on the plans for observances for the celebration of our Centennial Year is most satisfactory. Plans for the October Convocation are now just about complete. We are pleased to announce that Dr. Vannevar Bush has definitely accepted our invitation to be the main speaker. The committee is now working on the events for Goddard Day on 16 March 1965 and on the Open House of our campus and dedication of the new Chemical Engineering and Chemistry Building on 8 May 1965.

The development "screening meetings," which were previously described to you, have now been held in six areas, and their results will be most helpful to us in establishing our goal for the Centennial Fund. Also, the organization for the campaign in the Worcester area under the direction of Norman Wilson, '42, has been quite successful in obtaining its top leadership. On 29 April Mr. Morgan, our Centennial Fund Chairman, presided at a luncheon for over 20 of the leaders of Worcester business and industry. After hearing the President's report on Tech's plans for the next 10 years, the group gave its general endorsement to the Centennial Fund. Already, advance indications of support for the Centennial Fund are most encouraging of success in this effort.

We believe that this year's amended version of our Ten Year Plan is ready for prompt approval on 6 June. On 16–17 April, the second Trustee Ten Year Plan Advisory Group was on campus to attend a faculty meeting and visit in the departments, prior to discussing the Ten Year Plan. Present this year were Messrs. Coghlin, Counihan, Marsh, Michel, Robbins, and Smith. General satisfaction was expressed by all, after much interesting and apropos discussion, particularly of the revised section on "Educational Goals." Revisions in the estimates of finances and enrollments for 1974–75 now predict an enrollment of 2,000 and an average faculty salary of $16,000. These new figures indicated a possible deficit through the 1965–66 year, but a surplus of $429,000 by 1974–75. However, since the latest advance information on the incoming fall freshman class indicates the enrollment of a greater number of students than previously estimated, it is possible that the early deficits will be reduced or eliminated. In connection with the discussion of the Plan, the questions of "How do we evaluate a superior engineer?" or "How is Worcester Tech really doing?" were raised. Through a questionnaire, we hope to find answers to these questions, other than general assumptions.

The construction of the Chemical Engineering and Chemistry Building is now progressing rapidly, with structural steel erected and 95 per cent of the foundation poured. A. J. Knight Field has been seeded, a small maintenance building constructed, and the chainlink fence erected.

The expected incoming freshman class presently numbers 386; this is a 21.4 percent increase over last year's figure of 318 at this time. Of course, this will be our largest class ever, well ahead of our previous record class of 322 admitted in 1961. You may rest assured that the same high quality admission standards which have previously guided us have been strictly adhered to this year. Average mathematical Scholastic Aptitude Test score is 673, 18 points higher than last year, while verbal average is 558, five points higher. High school ranking averaged 16.5 out of 100; last year it was 16.0.

You no doubt watched our Worcester Tech team represent the Institute on the nationwide General Electric College Bowl Game, on Sunday, April 26. In this scholarly quiz game, they scored 135 points against 155 for Illinois Institute of Technology. Comments and letters received since then have indicated a universally favorable reaction to the showing made by our men. They were obviously well prepared, and we proudly believe that their performance, together with a one-minute moving picture of campus views narrated by Gary Goshgarian, '64, the team captain, served to give Worcester Tech valuable nationwide publicity.

A present lively topic of interest on our campus is the question of whether or not the compulsory ROTC course for all freshmen and sophomores is in the best interest of our student body. The agenda for the June meeting contains this item, for our discussion at that time.

You will be proud with us of the Annual Alumni Fund program. The Alumni Fund for 1962–63 has won honorable mention for improvement among specialized schools in the 1964 Alumni Giving Incentive Award competition, after a similar award for sustained performance had been received last year for the 1961–62 Fund. The Association is working in close cooperation with the Development Office in planning and holding screening meetings in various areas. The Association officers, the Alumni Fund Board, and all chapters will be working in all possible ways to insure a successful Centennial Fund program.

The advancing enrollment at Tech has caused us to reconsider the "Freshman Rule:" ". . . when the male enrollment of an institution reaches a total of 750, no freshman will be allowed to compete on a varsity team." Tech does not now observe this rule. Up to this year most of our opponents have begrudgingly gone along with our using freshmen on varsity teams because of our rigid curriculum. But now with our enrollment approaching nearly twice the 750 figure, and far in excess of some of our opponents, we can no longer expect nor do we ask for this lenient attitude to continue. Therefore, the decision has been made to begin formally a "freshman team program" in the fall of 1965. Since all our teams have always relied heavily on the use of good freshmen athletes, the quality of our varsity teams could then be temporarily below par. To counteract possible continuing unfavorable publicity, greater efforts will be directed to attract more student-athletes, so that we can carry on in a presentable way the enlarged program.

ALUMNI COUNCIL MEETS

Alumni Fund Sets New Record
Warren C. Whittum, '30 Elected President
Constitution and By-Laws Amended

"The Alumni Fund has already surpassed all previous totals," said Robert S. Schedin, '43, chairman of the Alumni Fund Board, in his report to the annual meeting of the Alumni Council. He announced that as of June 4, $98,050.52 from 3,222 alumni had been received. The previous record high was last year's final total of $92,315.80.

"Last year's Fund has won honorable mention for improvement among specialized schools in the alumni giving incentive award competition of the American Alumni Council," he announced, "and thanks to the loyalty and hard work of many Techmen, this year's Fund looks like another contender for honors."

The Council meeting, held on Friday, June 5, in the Janet Earle Room of Alden Memorial, was presided over by retiring president Raymond J. Forkey, '40.

In one of the major items of business that day, the Council elected officers for the coming year. Elected president was Warren C. Whittum, '30, of Orange, Connecticut, chief engineer of Farrel-Birmingham Company, Inc. of Ansonia, Connecticut. Prior to his election Whittum had served two years as a member-at-large of the Executive Committee of the Association and a vice president of the Association from 1960–62. He was president of the New Haven Chapter from 1957–58 and the chapter's delegate to the Council from 1959–60.

Elected to succeed Allan F. Hardy, Jr., '35, as vice president was Robert M. Taft, '38, of Hartford, Connecticut. He is assistant manager of Factory Insurance Association at Hartford. For the past two years he has been a member-at-large of the Alumni Council's Executive Committee.

Elected to the two vacant posts on the Executive Committee were Charles C. Bonin, '38, of Wyckoff, New Jersey, vice president, utility consulting and design engineering, Ebasco Services, Inc. of New York City; and Caleb D. Hammond, '37, of Maplewood, New Jersey, president of G. S. Hammond & Company, New York City. Elected to succeed J. Norman Alberti, '24, as a member-at-large was Charles R. Michel, '37, of Merion Station, Pennsylvania, assistant to the vice president and general manager, industrial and public relations, Atlantic Refining Company, Philadelphia.

Re-elected to the Fund Board for a three-year term was E. Carl Hoglund, '27, and elected to fill the vacancy of retiring chairman Schedin was Luther C. Leavitt, '34. Carl W. Backstrom, '30, a member of the Board for the past two years, was elected chairman.

In further discussion it was noted that during the next three years the Alumni Fund will be combined with the Centennial Fund of the Institute and that the Association's budget will be met by the college.

The reports of the Treadway and Association Funds were accepted as presented.

The committee on revision of the Constitution and By-Laws reported and the proposed amendments were approved as presented to the Council. A copy of these amendments had been mailed to all members of the Association in May 1964.

A highlight of the meeting was President Forkey's report to the Association on his past year's term. In his report he noted the many activities of the alumni and urged that in the future, more effort be made to increase contact between the Association and the undergraduates.

President Storke addressed the group in the morning session and reported on the plans for the coming Centennial Year. The substance of his remarks were similar to his report to the Board of Trustees which is reprinted in part on page 14.

After a lunch at the Coach and Six Restaurant the Council adjourned to attend the commencement exercises and the President's reception.

Three Honored—
GODDARD and TAYLOR AWARDS PRESENTED AT LUNCHEON

ROBERT H. GODDARD AWARD

George Edward Feiker, Jr., '39

With a long time interest in high frequency electrical devices, he has concentrated his efforts in this field.

He graduated in 1939 with a Bachelor of Science degree in Electrical Engineering, and joined the General Electric Company in 1942. In 1948 he was presented General Electric Company's highest technical award, the Charles A. Coffin Award.

Manager of his company's Electrical Engineering Laboratory in Schenectady, New York, his work is concerned with the generation, conversion and control of electrical and electromagnetic energy.

Keith (l) and Feiker

Hardy (l) and Knight

HERBERT F. TAYLOR AWARD

Arthur Weston Knight, '29

A member of the Board of Trustees of Worcester Polytechnic Institute, he has served as National President of the Alumni Association, Chairman of the Techni-Forum Committee and in numerous other offices. Independent in thought, he has thoroughly fulfilled his responsibilities in all areas of his Institute and Association activities.

Graduating as President of the Class of 1929 with a Bachelor of Science degree in Electrical Engineering, he has, since that time, continuously devoted himself to the progress of his Alma Mater. He is truly an outstanding alumnus.

ROBERT H. GODDARD AWARD

Charles Hollerith, '17

Honored in 1963 as one of Michigan's outstanding living inventors, he has been granted more than 75 patents for a wide variety of inventions.

A graduate of the Class of 1917 with a Bachelor of Science degree in Mechanical Engineering, he has displayed his executive ability in numerous managerial positions, and has actively engaged in civic affairs.

In all phases of his professional career he has won the highest respect and admiration for his outstanding achievements.

Keith (l) and Hollerith

REUNION CLASS ROUNDUP

Fifty-Year Associates

Harry B. Lindsay, retiring president of the Fifty-Year Associates, welcomed the many members who were present.

The minutes of the 1963 meeting were read and approved. The president called attention to the present by-laws of the Associates, and stated that the former dues of $1.00 a year have not been collected for some time. Because of the fact that there is no money in the treasury, it was stated, therefore, that the election of a treasurer was unnecessary.

The president also explained that it is customary to elect the president and secretary of the incoming 50-year class as officers of the Associates. In accordance with custom, therefore, a motion was made and passed that all members of the Class of 1914 be elected as Fifty-Year Associates, and that Roland H. Dufault, president, and Ellwood N. Hennessy, secretary, of that class, be elected as president and secretary of the Fifty-Year Associates. The retiring secretary handed over to the new secretary records of this organization for June 9, 1962 and June 8, 1963.

President Lindsay asked for the oldest member present to please make himself known. The honor went to Ernest Mosman, '96.

The following motion was made and unanimously voted: "It is moved that a committee be formed to study the Constitution and By-Laws of the Fifty-Year Associates of W.P.I., and to make recommendations for future activities of the organization. The committee shall consist of five members, three to be past presidents or secretaries, with the current president and Warren B. Zepp ex-officio members. The three other members are to be selected by Messrs. Dufault and Zepp. This committee is to report at the next annual meeting."

The meeting was adjourned at 10:55 a.m. on motion of Arthur Burleigh, '13.

ELLWOOD N. HENNESSY,
Secretary

1904

Each year, of course, our ranks grow thinner, but at our 60th get-together at the Worcester Country Club, we opened on a special note of sadness because of the passing of Alfred Weld. He and Mrs. Weld have not missed an annual reunion since the class decided at our 40th year out of Tech to meet each year as long as we could. Meeting annually this way we have become a well knit family of friends and all look forward to our meeting.

After a roast beef dinner as guests of our president Al Rankin, following a gossipy afternoon on the country club lawn, we gathered to hear letters from several absent members. A "bull session" on the affairs of the world followed. This report of our evening together would be much more interesting if we had not agreed that our discussion was "off the record!" We are happy to report, however, that some of the world's problems were not all losses and that in 60 years civilization had made some gains.

Letters were received from Seth Clark, Ed Brundage, Fred Daniels, Phil Sibley, Fletcher Howe, and Bill Morgridge. Distance and tottery legs were given variously by the writers for not coming but it was pleasant to hear from them and to know that they, too, remembered the days of their youth.

Those present at the meeting were: Al Rankin and his sister Ethel (our hosts), the Howlands, the Feikers, the Webbers, the Roberts, and Mrs. Amy Wright. Mrs. Frank Adams, who is recovering from illness and who has been with us since Frank's death, expressed her regret for not being able to attend our reunion.

It has been our custom to invite the widows of those departed members who with their husbands have shared the memories of the years at our annual meetings.

Of the 53 members of the Class of 1904, 14 are known to be living and five were with us on the night of June 12. May we all meet again on our 61st reunion in 1965!

FREDERICK M. FEIKER

1911

The Class of 1911 held its 53rd reunion cocktail party and dinner at the Sterling Inn on June 5. We were fortunate in having 10 members of the class present together with seven wives on this occasion.

Before the dinner the class stood in silence while President Chace read the names of those who had passed on since the 52nd reunion. This list included Dodge, Hartwell, Mills, Mixer, Paelian, Patch, and Totti.

During the dinner Pat Hanaver was called to the phone to talk with Burdie Halligan who wished to extend his best wishes to the class and to express his regrets that he was unable to be present.

It was unanimously voted to hold another reunion in 1965.

A rising vote of thanks was given to the secretary for his work in connection with the arrangements for the cocktail party and dinner.

Reports were read by both treasurer and the secretary; communications were read from Phil and Alice Kneil, Mrs. Garabed Paelian, Stanley P. Stewart, Burdie Halligan, Harold Frizzell, Bill Donath, Charlie Bassett, Ed Flaherty, and Paul Mills, son of the late Peter Mills.

Those present at the reunion were: Ernie Adams, Dave Carpenter and wife, Howard Chace and wife, John Cronin, Nat Dunbar and wife, Pat Hanaver and wife, LeRoy Holden, Hugh Reid and wife, Bill Taft and wife, and Harold Winter and wife.

NATHANIEL B. DUNBAR,
Secretary

1912

Our 52nd reunion was quiet with a little smaller group than last year's. Eight members with six wives had dinner at the Marlboro Country Club followed by a social hour at the home of President Joe Granger. On Saturday, four more joined with us to make a total of 18.

We sent congratulations to Art Larned on his receiving the honorary degree of Doctor of Engineering but with regrets that he was unable to receive it in person.

Widows of deceased members were invited to the reunion as our guests. It was voted that this custom be made perma-

1912

nent and that widows be included on our mailing list to receive all letters sent to class members. Special attention was given to letters from absent members. This year 45 percent of our members contacted us in some manner.

HARRISON G. BROWN,
Secretary

1913

The members of 1913 met for their 51st reunion at the Simplex Country Inn, Winchendon, on June 4 and 5. Burleigh, Chick, Gowing, Graham, Jones, Myers, Rice and Thomas and their wives were there; also Brouwers, Canton, Lindsay and Pease. The Gridleys, Bud Smith and Schofield joined us on the Hill Saturday morning.

At a class meeting it was voted unanimously to rescind the vote of last June and to designate our class Fifty-Year Fund as the Class of 1913 Fifty-Year Scholarship Fund, restricted to the use of income only and to be administered by the Institute in conformity with the regular policy. This fund was originally intended for a student loan fund, but because of the large amounts of money allotted for this purpose by the Federal Government, the Institute advised us that there is a much greater need for scholarship grants. Additional contributions by members of the class or others may be made at any time and sent directly to the Alumni Association, specifying that they are for our class fund.

Several letters from classmates were read, and one from Al Brown suggested a get-together in Florida. Interested members will please inform the secretary.

ARTHUR C. BURLEIGH,
Secretary

1914

A long time before our 50th Reunion was held on June 4, 5, and 6, Mike Dufault and his committee began sending out interesting letters to the members of the class in a very real attempt to make our 50th Reunion an outstanding affair, and also to see to it that the Class of 1914 made a worthwhile contribution as its 50-Year Gift.

Some of the members of our class arrived on Thursday morning to play golf, renew friendships, and to relax in the comfortable and hospitable atmosphere of The Winchendon School.

The weather was excellent with lots of sunshine, but unlike our 45th reunion in 1959. Because of the cold and stiff wind there could be no "rocking chair brigade" on the verandas of the hotel. Except for those hardy souls who played golf or shuffleboard, nearly everyone went inside the hotel to greet friends and to ask each other about children and grandchildren, and present activities in life.

In the afternoon, just before dinner, the cocktail lounge, in a special building in back of the hotel, proved to be a popular assembly point for our class members and their wives. A few men from the Class of 1913, who come with their wives every year to Winchendon for an annual reunion, mixed in with our group and were hospitably received.

Following are those who were present for either all or part of our three-day class reunion: Ed and Lillian Bartlett, Eric and Olga Bergwall, King and Doris Blanchard, Art and Mabelle Burns, Horace Cole, Al and Margaret Crandon, Ray and Lou Crouch, Jack and Rhea Desmond, Mike and Chris Dufault, Frank and Marion Gurley, Al and Anna Hedlund, Ernie and Bertha Hedstrom, Bud and Dorothy Hennessy, Larry F. and Mary Howard, Clint Hubbell, Earl and Mary Hughes, Chet and Fanny Inman, Russ and Gladys Karb, Mildred Keith, Salt and Anne Knowlton, Stu and Olive Leonard, Howie and Amy Martin, George and Pearl Ross, Bill and Frances Spratt, Tillie and Ruth Tilton, and Clayt Wilcox.

Kirt and Edith Marsh, and Ed and Katherine Jones were both scheduled to attend the reunion. Unfortunately, however, both Ed and Kirt were claimed by sickness and were unable to come. In addition, Sih-Zung Yang wanted to come very much, all the way from Formosa, but

1914

was unable to do so because of doctor's orders. The Class sent letters of sympathy and best wishes to them.

On Thursday night, as soon as it was dark, Bud Hennessy showed moving pictures of his trip to the Hawaiian Islands. He stated that he never had shown them to a more interested audience in his life than this group of classmates and wives. Indeed, some of them had made the trip to the Islands in previous years. He also told about the good time that the Hennessys and the Dufaults had together in Honolulu, as Mike and Chris happened to be spending the winter in their "penthouse apartment" there at the time.

On Friday, many of our group drove up to the Cathedral of the Pines at Rindge, New Hampshire. All of us who went took the "tour" which proved to be both interesting and instructive.

Following the dinner on Friday night, the members of the Class with their wives attended the class meeting. An official report is being sent to all class members.

On Saturday morning most of us arose early, had breakfast, and checked out of the Winchendon School to go back to our college in order to attend the Fifty-Year Associates meeting at 10:30 a.m.

Preceding the Alumni Luncheon at Morgan Hall, the class picture was taken. For a fifty-year class we know we did very well to have a group of 22 members, 19 wives, and one grandchild, making a total of 42. Our "class message" was delivered by Mike Dufault and when he climaxed his message by announcing that the R. L. Keith Memorial Fund (our 50th anniversary class gift) totalled $20,117.20, there was a rousing ovation.

We were proud also to be awarded the Class of 1917 Attendance Cup, to be held until the following year, as a reward for having the greatest percentage of living members present at the reunion. We were told that the grade we made was 32 percent. We were, of course, also pleased with our Fifty-Year Diplomas, engraved in gold with the Worcester Polytechnic Institute Seal mounted in a lovely red folder.

Thus we come to the end of 50 years. Whoever would have thought that so many of us would have lived so long? We have traveled a long way since the Forty-Fourth Annual Commencement of the Worcester Polytechnic Institute held at Tuckerman Hall in the Woman's Club Building at 10:30 a.m., Thursday, June 11, 1914. That was the time of our graduation, when we received our diplomas from his Excellency The Honorable David I. Walsh, then Governor of the Commonwealth.

Worcester Tech gave us an excellent education. Those of us who have lived have had wonderful lives. We hope, and we believe, that we have made our individual contributions to the world. Who could ask for more? Who would want it any different?

ELLWOOD N. HENNESSY,
Secretary

1919

Nine members of the Class of 1919, seven wives, and one guest from the Class of 1920 sat down to enjoy a dinner and gabfest at Worcester Country Club on June 5.

In addition to reminiscing, the group was shown a beautiful set of slides depicting the travels of Tommy Thompson in the western United States and the Canadian Rockies. Tommy's narration was most entertaining.

Howard Mayo brought a few slides of his hobby—the Unitarian-Universalist Camp at Rowe, Massachusetts, which accommodates about 70 high school age youngsters in the summer.

Present were: Mr. and Mrs. Roger B. Chaffee, Mr. and Mrs. John W. Coghlin, Mr. and Mrs. Rudolph H. Freeland, Mr. and Mrs. George V. Hough, Mr. and Mrs. Howard A. Mayo, Mr. and Mrs. George W. Roraback, Mr. and Mrs. Ralph A. Williams, Alden G. Carlson, Harold W. Thompson, and Raymond B. Heath, '20.

By Saturday morning, most of our members were claiming other appointments, so that Rudy Freeland and Ralph Williams were the only members of '19 to appear in the class picture or the Alumni Parade. At the Alumni Luncheon we picked up Burton W. Marsh and Mr. and Mrs. Laurence G. Bean, '20.

1919

As our next reunion is the fiftieth, it is hoped that a higher proportion of our class will attend. Being a small class, it should not be difficult for us to draw well over 50 percent of our members together.

HOWARD A. MAYO
RALPH A. WILLIAMS

1924

History repeats and, except for the date, an excerpt from the minutes of the 25th reunion rings so true that it bears quoting. "On the afternoon of Friday, June 17, 1949 (Note: insert instead June 5, 1964), an assortment of classy cars started arriving at the Publick House in Sturbridge. The management thought some error in dates had been made as it scoured its records and couldn't find where any group of youngsters had made reservations for that date. . . . No wonder they gazed in amazement to find these youngsters soon started yelling 'Twenty-Four, Twenty-Four, Twenty-Four!' "

Now for proof of the above, we must hope the editor of THE JOURNAL sees fit to include a picture of about 75 percent of this 1949 gathering taken before the 1964 Alumni Luncheon. What does it matter that over the 15 intervening years some weight has been added in spots, some hairlines have thinned, and there's a gray hair here and there.

The vivaciousness had not diminished, although the group did retire earlier than 15 years ago (by request of the management so other guests would not be disturbed, of course).

The committee, consisting of Chairman Hooper, Alberti, Counihan, Storms and Styffe, had all arrangements under full control. Besides, a lesson was given by Les on the art of being a wise chairman. He had returned only the preceding day after spending a few weeks in Europe. However, he was forgiven as just that afternoon he had brought honor to our class and himself by receiving an honorary doctorate from W.P.I.

After a noisy social hour(s) and a most delectable dinner, Norm Alberti took charge as master of ceremonies. Would that space were available to record the patter, the fun, the individual accomplishments since the class last met! Possibly of some interest to most of the slaves was the admission of some of these young fellows that they had retired, viz., Counihan, Jepson, Logan (mostly), Styffe, and Willard.

In starting the meeting, Norm asked the group to stand for a moment of silent prayer in memory of Harry L. Beach, Thomas W. Berry, Theodore R. Holton,

Richard A. Nelson, Herbert E. Peterson, Minott M. Rowe, and Paul C. Shedd, who passed to their eternal reward since our last meeting in 1959.

About the only business on the agenda was the election of Hank Higgins to serve as president to replace our beloved late Tom Berry. The secretary was elected to add the vice presidency to his chores. A post-reunion treasurer's report from Stan Howard indicates a balance of $138.67, which remains intact, since our festivities were self-supporting.

Including wives, except as indicated below, 41 attended the Alumni Luncheon in Morgan Hall on Saturday: Norm Alberti, Kelly Anderson, Sol Bartlett, Tom Counihan, Dannie Danielson, Bill Gallotte (all the way from Bellevue, Washington), Jim Hillman, Les Hooper, Harry Hurd, Jepp Jepson, Helge Johnson, Dick Kimball (who had his son Alan with him), Frank Linsley, Sterl Logan, Francis Perry, Ronc Ronca (same pep but plumper after two years in Switzerland for his firm), Dave Sandman, Al Storms, Jack Styffe, Carroll Tucker (by himself), and Don Wilson (just back from a long assignment in Luxembourg where he built a plant for his company).

At the reunion banquet at Sturbridge the previous evening this group had been swelled to 53 by the attendance with wives of Eddie Bateson, Ed Burke (and his son Bill), Winnie Gove (who summers in Connecticut and winters in Florida), Ray Holmes, Lee Lundgren (by himself), Art Miller and Gordon Willard.

1924

It was a grand and enjoyable event and most comments were enthusiastic in planning a bigger and extended 45th, as the time was all too short.

HELGE S. JOHNSON,
Secretary

1929

The reunion of 1929 at The Publick House, Sturbridge, on June 6 was a rouser. It followed the Alumni Luncheon on Boynton Hill. Most everyone gathered by 4:00 p.m. in the tavern cocktail lounge. The party ended in the past midnight skittering of those who stayed over in ye hostelry.

1929

At countdown, 53 sat for dinner—27 were members of the class; the remainder, assorted wives, children and guests.

Prof. Richard G. Beschle, '50, one of the new-breed faculty members (his chief interest is in biomedical engineering), used a carryall full of equipment to illustrate his well received talk on sound.

He ran the gamut from lab to Carnegie Hall, and from the thrum of a bird's wing at quarter time to the sound of the Blueberry Special as it hoots for the crossing at White Village, Lower Waterford, Vermont.

Steve Donahue, reunion chairman, had little success with an audience participation program. More outstanding members of the class were awarded "prizes" by Diran Deranian. All '29ers received a souvenir tray. Vi Burdulis entertained with her accordion. This was her third reunion with '29.

A committee was named to handle matters relative to the Boynton Hall class door. There was little other class business, although it was estimated that at the projected rate of spending the class treasury will be depleted by the 40th reunion. The reunion committee was re-elected over the protests of the chairman. Those named again: Donahue, Deranian, Carl H. Carlson, Francis E. Kennedy, Milton F. Labonte, Arthur S. Marshall, Andrew J. O'Connell, and Francis Wiesman.

Based on the very latest experience, this committee makes the following recommendations to all 35th reunion planners (vary others according to longevity):

No movies of past reunion. Nobody looks at them—they are in at the bar.

No recordings or tapes of past reunion programs. Nobody listens to them—t.a.i. a.t.b.

Plan a good meal; a short, entertaining, general talk, so EVERYONE can go back to t.b.

Don't plan an extensive after-dinner program. Before it is over, they'll find t.b. on the way to or from the facilities.

Accept this. START with a nice, big B. and a small combo of live music that "knows this one" as well as "that one." Junk the "programs."

Those who found t.b. at The Publick House were:

The committee and F. G. Baldwin, L. B. Barnard, W. S. Berry, A. H. Burr, L. Q. H. Chin, N. Clapp. A. M. Cook, W. L. Crosby, B. Dephoure, H. L. Horton, W. R. Hutton, F. E. R. Johnson, G. V. Kennedy, A. W. Knight, U. A. Matson, N. R. Merrill, J. L. Mooshian, C. L. Robinson, P. M. Seal, R. J. Stone, T. K. Walkonen, R. C. Wiley.

The 40th reunion committee for 1929 is now at work. It has:

Contracted (verbally) for the services of Miss Burdulis and her accordion in 1969; place yet to be determined.

Begun a continuing survey of Central Massachusetts for a BIG B.

Applications for membership on this committee may be sent to Room 107, Boynton Hall, for screening. Prior experience unnecessary. Demonstrated capacity, chief criteria. Free evenings, mandatory.

STEPHEN D. DONAHUE,
Reunion Chairman

1934

The Class of 1934 reunion was held at the Fairbrook Country Club, Holden, Massachusetts on Saturday evening, June 6. A delicious steak dinner was served to 45 class members and wives. A cocktail hour and general gab session preceded the meal.

Everett Sellew, class president, was emcee for the program. As a switch, he asked for remarks by the wives of the class members.

Warren Snow proposed that dues be collected every five years in order to build up a fund for the 50-year class gift. This plan was voted in and Warren was made chairman of a committee to handle the fund.

1934

Raise your hat and cheer—'39

Prizes were given for the following: most grandchildren, Anthony C. Cowal (two); most children, Paul Sullivan (five); traveled farthest for reunion, G. Donald Greenwood; attendance prize, Edmund Rothemich.

At the conclusion, Mr. and Mrs. Cowal showed movies taken at the 25th reunion five years ago. It was gratifying to note little change in our members!

BERTIL F. HAMMARSTROM

1939

The 25th is now but a memory—we hope a very pleasant one—for all who attended the weekend festivities on June 5 and 6.

The committee, John Lindegren, Mal Rafuse, Harold White, Tom Beatty and Brad Ordway, had planned a full schedule, starting with golf at Wachusett Country Club on Friday afternoon. That evening '39ers and their wives gathered in the Terrace Room of the club to renew acquaintances. The most often heard remark of the evening was, "Gosh, you haven't changed a bit," and in truth most of us had not.

After a delicious dinner of lobster or roast beef the committee presented a few awards of recognition. For coming the farthest to the reunion (from Sutter Creek, California), Jack Rushton won easily with Frans Strandberg (from Andros Town in the Bahamas) as runner-up. For having the most grandchildren the Jack Lancasters copped the prize with two, although the Gordon Thompsons and the Bud Jacques claimed one each. The Arthur Mallons had the most children (six) and the Harold Humphreys had the most girls (five). The Art Cooleys had a son in W.P.I., as did the Warren Keatings. The Roger Ifflands had the youngest child at three and one-half years old. Dave McEwan won the prize for the lowest golf score while Kelly Keyser had the dubious honor of having the least hair (Rollie Anderson ran a close second). Favors were distributed to all present, courtesy of Norton Company and Heald Machine Company, and then Brad Ordway introduced Al and Mrs. Schwieger to the group.

Al gave us a brief forecast of the changes we were to see in the "new" Tech the next day. He reminisced a little about our class, deeming it one of the best in the "golden years." He observed that our school is not only bigger, more businesslike, but perhaps unhappily more impersonal than in our day.

1939

At a very brief business session John Hollick was elected permanent class vice president (no one present could remember for sure who had been elected to the office previously) and the committee announced that 22 members had contributed $770 for the class gift. Our goal is $2500 for a humanities library at W.P.I.

Dancing was next in order and the Class of 1939 showed it has a lot of life left in it still, particularly when it came to doing the polka! Regretfully, the party broke up in order to be ready for a full day on the sixth.

Saturday morning was sunny and pleasant and some 50 people (alumni, wives and children) gathered on the steps of Morgan Hall for a guided campus tour. There have been some changes made! Daniels Hall is the newest addition, a very attractive one, with an enlarged bookstore, spacious lounge, and snack bar on the ground floor. The rooms upstairs are large and tastefully decorated and most of us agreed a great improvement over our old Sanford Riley rooms.

At 10:30 we gathered for a permanent record of our reunion in our class picture. We led the parade into Morgan Hall for the Alumni Luncheon.

Thirty-nine had the longest table in the hall, and barely missed the Class of 1917 Attendance Cup when '14 nosed us out by having a larger percentage of class members present. The '14 class gift overshadowed ours somewhat, but Al Raslavsky announced we hoped to have $2500 for the library in the near future.

After the luncheon the group scattered in several directions. Three foursomes teed off at Worcester Country Club, several families visited Old Sturbridge Village, and about 40 of the group spent the afternoon at Brad Ordway's cottage on Big Alum Lake. Several hardy souls even went swimming!

At 6:30 the group assembled again at the Lincoln House in Sturbridge for a "happy hour" and later a smorgasbord. This time the group numbered 66. The party agreed that it had been a wonderful weekend and, to quote from a letter received from Don Houser in Lausanne, Switzerland, "Thirty-nine was, and still is, a great class."

1949

Blessed with a beautiful spring day, the Class of 1949 held a very successful 15th reunion.

A delightful cocktail hour, sponsored by the committee, was held at Harry Melden's home in Shrewsbury. As time went on it became apparent that the weather and accessories were quickly lulling the Forty-niners into a state of

1948-52

"no-go" to our next environment—the White Cliffs in Northboro. A blast of the Tech Marching Song over the P.A. system finally got the crew in shape for the 10-minute ride to Northboro, where we joined the Classes of '48, '50, '51, and '52 for an evening of good food, fellowship, prizes and dancing.

A questionnaire had been sent out earlier, to which 110 returns showed the following:

Average Age	39.16 years
Married	108
Single	2
Home Ownership	102
Rents Apartment	8
Smoke	51
Do Not Smoke	59
Drink	108
Do Not Drink	2
Salary	
5–10,000/yr.	10
10–15,000/yr.	64
15–20,000/yr.	25
20–30,000/yr.	8
30–50,000/yr.	2
50,000+	1
Have you lived a happy life?	
Very	75
Moderately	26
So-So	8
Unhappy	1
Would your choose engineering again?	
Yes	85
No	25

Same branch?

Yes	60
No	50

At W.P.I.?

Yes	80
No	30

Those in attendance were the following and their wives: James Adams, Dean Amidon, Karl Berggren, Fran Bigda, Ray Brandoli, Tom Carlin, Bob Gowing, Howie Green, Al Hapgood, Fran Holden, Pete Kahn, Russ Larson, Al Letourneau, Sid Madwed, Harry Melden, Harry Mochon, Walt Mussoni, Cliff Nickerson, Jim O'Regan, Harvey Pastan, Jim Peepas, Herb Pettee, Mack Prince, Ed Randall, Ellsworth Sammet, Art Sherman, Dick Smith, Dave Stowe, Don Taylor, Max Underwood, Stan Waruzila, Jim Wilson, Joe Winslow.

Those appearing stag: Paul Dulong, Bob Miller, Abe Siff, Al Swenson.

Committee members: T. Carlin, H. Green, H. Melden, H. Mochon, J. O'Regan, D. Taylor.

HAROLD A. MELDEN, JR.

1951

One of the most enjoyable reunion banquets in the history of '51 was held at the White Cliffs in Northboro on June 5. Although we were only 24 strong including our wives, there were a total of 156 alumni and wives from '48, '49, '50, and '52, which made a very agreeable evening of reminiscing and good cheer.

We heard from Harvey Howell and his family of five, now residing in Puerto Rico. Don Spooner expects his oldest boy to enter Tech in September 1965. Rick Ferrari added twin boys to his family this past year. Ralph Auerbach is back on the east coast in Newport, Rhode Island, and Eric Peterson has gone to the west coast. All in all, 30 of our classmates have made substantial moves in the past three years.

Your local class officers: Richie Howard, vice president; Johnny George, treasurer; and Stan Miller, recording secretary.

Wish you all a pleasant summer.

STANLEY L. MILLER,
Recording Secretary

1952

A small but enthusiastic group of the Class of '52 gathered together on Friday, June 5 at the White Cliffs in Northboro for a joint reunion with the four classes which preceded us here on the Hill.

Among those who attended with their wives were Ken Baker, Dick Boutiette, Dick Cavanaugh, John Diachenko, Phil O'Connor, Wayne Robertson, and Jack Tracy. Charlie Crathern also was in the group but his missus was not able to join him because of the impending arrival of a new addition to the family.

In regard to families, recognition was given to Charlie Crathern and Phil O'Connor, both of whom have four youngsters, for having the most children among those who attended. Ken Baker, now living in the Buffalo area, came from the furthest distance to attend the reunion.

Of interest also was a letter from Bill Mehalick, who sent his greetings from Luxembourg where he is presently on an assignment with DuPont.

Completed Careers

John Carey Tilton, '96

John Carey Tilton, born April 3, 1873 at Concord, New Hampshire; died July 5, 1964 at Concord, New Hampshire.

Tilton began a long association with W. F. Whitney Chair Company in 1896 and at the time of his retirement in 1932 was superintendent and manager.

He served several terms as a representative to the New Hampshire General Court and also as an alderman for several terms.

Tilton was a past president and director of the Concord YMCA, a director of the Concord National Bank, past president of the Concord Rotary Club and a past officer of the New Hampshire Civic League. He was treasurer and trustee of the New Hampshire Centennial Home for the Aged, and for many years a director and treasurer of the New Hampshire Bible Society.

He is survived by his wife, Mrs. Grace B. Tilton; a daughter, Mrs. Jean Melby; four grandsons, and several cousins.

John C. Spence, '03

John C. Spence, born November 5, 1876 at Ballymena, Northern Ireland; died June 5, 1964 at Worcester, Massachusetts.

He was employed by Norton Company as assistant supervisor of the Grinding Machine Division; superintendent and works manager and director of the company until his resignation in 1928.

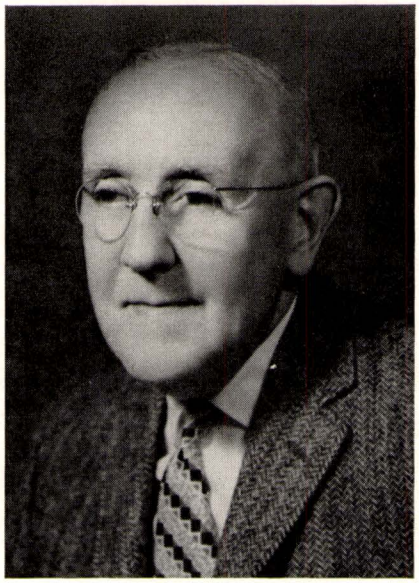
He then became a consulting engineer to the Tallor and Fenn Company, Hartford, Connecticut, and the Hudson Boring Machine Company. During World War II he was in charge of subcontracting for the former Reed-Prentice Company of Worcester.

He is survived by three daughters, the Misses Jean C., Sheila B. and Sylvia E. Spence; two brothers, Robert J. and David R. Spence; and two sisters, Mrs. David Ingerson and Mrs. Arthur Smith. John C. Spence, '33, is his nephew.

Burtis Scott Brown, '05

Burtis Scott Brown, born August 11, 1881 at North Andover, Massachusetts; died May 26, 1964 at Starke, Florida.

Brown received his degree in civil engineering and later did graduate work at M.I.T. and Harvard University. In



Brown

1915 he received a professional civil engineering degree from W.P.I.

Upon graduation Brown worked for Eastern Bridge and Structural Company of Worcester. In 1906 he moved to Youngstown, Ohio to become a designer with General Fireproofing Company.

He opened his own consulting engineering office in Boston in 1909 specializing in the structural design of buildings. He was soon known as the Dean of Structural Engineers in Boston.

In 1920 he was appointed to a special commission by the mayor of Boston to help write the building code. Considered a model code, it was copied by several cities in New England.

During his career Brown was responsible in the design of numerous buildings throughout the country and pioneered in the design of multi-level ramp garages.

Brown married the former Miss Amy Dayton, now deceased, in 1920. His son, Robert Dayton Brown, '44, died in the service in 1949. In 1959 he married the former Mrs. Helen G. Davis LeClerc of Starke, Florida, widow of J. Arthur LeClerc, '95, who died in 1956.

He is survived by his wife, Mrs. Helen G. Davis LeClerc Brown.

Isaac Goddard, '06

Isaac Goddard, born March 8, 1878 at Worcester, Massachusetts; died March 14, 1964 at Newton, Massachusetts.

Goddard received his B.S. degree in education in 1926 from Boston University and a master's degree in education, also from Boston, in 1936.

He spent his life teaching, first at Quincy High School from 1908–13, and then at East Boston High School from 1913–48.

After retiring from the Boston school system in 1948 he continued teaching first at the Feener Technical Schools and then Chamberlayne Junior College. He finally retired on doctor's orders in 1963 at the age of 86.

Goddard was active in church and fraternal organizations and was a past treasurer of the Prohibition Party.

He is survived by his wife, Mrs. Katherine S. Goddard; a daughter, Mrs. Dorothy G. Chester; a sister, Mrs. John McNamara; and one granddaughter, Mrs. Charles D. Greenidge.

Charles Arnold Pellett, '09

Charles Arnold Pellett, born November 21, 1885 at Albany, New York: died July 7, 1964 at Brattleboro, Vermont.

Pellett's business career as an architect and contractor began in Brattleboro with the firm of Pellett and Skinner, which constructed the Canal Street and Oak Grove schools, the American building, Home for the Aged, and others.

In Brattleboro he was a member of Columbian Lodge of Masons, the American Legion, and a trustee of the Meetinghouse Hill Cemetery Association.

A veteran of World War I, Pellett received the French Croix de Guerre for conspicuous bravery while serving in France as a first lieutenant. Earlier he had served on the Mexican Border.

During World War II he was employed as an engineer by the U.S. Government in charge of construction at Great Lakes Naval Training Station, and of maintenance at Hanscom Air Base, Bedford, Massachusetts.

Pellett received the Brattleboro Chamber of Commerce "Man of the Year Award" in 1960 for the part he played in making possible the construction of Frances Hicks School for Retarded Children.

Survivors are a daughter, Mrs. Louise DeWitt; a brother, John C. Pellett; three grandchildren and nieces and nephews. His wife, the former Miss Stella Simonds, sister of Donald D. Simonds, '08, died in 1961.

Garabed Hagop Paelian, '11

Garabed Hagop Paelian, born September 25, 1880 at Sivas, Turkey; died May 10, 1964 at Pasadena, California.

Prior to entering Tech, Paelian received his A.B. degree from Anatolia College in Turkey in 1903 and his M.A. degree from Oberlin College in Ohio in 1907. He then taught two years at American International College. He received his B.S. degree from Tech in electrical engineering and his Ph.D. degree from New York University in 1936.

He joined the Western Electric Company in 1911 and two years later was transferred to Antwerp, Belgium. When World War I began in 1914, he was transferred to England.

Returning to the United States in 1918, Paelian engaged in sales engineering for the International Western Electric Company. Two years later he transferred to the Systems Development Department of what is now the Bell Telephone Laboratories. In 1934 he started with the Local Central Office Facilities Department in New York City where he worked on the application of probability theory to switching problems. From 1943 until his retirement in 1945 he was with the Switching Engineering Department of the Laboratories.

In 1945 he moved to California where for several years he taught at Pasadena City College.

Archibald Babcock Hossack, '12

Archibald Babcock Hossack, born January 23, 1889 at Perry, Iowa; died July 2, 1964 at Upper Montclair, New Jersey.

Upon graduation Hossack worked for one year at Rockwood Sprinkler Company of Worcester as an engineer. In 1913 he joined the American Appraisal Company as an appraisal engineer. He remained with the company for the rest of his career except for the years 1932–34, when he was vice president of John Donnelly & Sons Company of Worcester. At American Appraisal Hossack was promoted to manager of the Boston Office, then manager of the New York office, assistant general manager, assistant vice president, vice president, and director. In 1946 he was elected president and in 1956 chairman of the board. He had headed the executive committee since 1961.

Hossack was also a director and member of the executive committee of the Torrington Manufacturing Company, board chairman and executive committee member of the A. R. Purdy Steel Company, board chairman of the Southwestern Appraisal Company, and a former director of Overseas Consultants, Inc.

Hossack

He was noted for his valuation of tangible and intangible properties for insurance, financial and tax purposes. At the end of World War II he served the Federal Government in connection with surplus disposal and reparations valuations.

A loyal alumnus, Hossack was treasurer of the New York Chapter from 1927–28 and president from 1928–30. He served two terms as vice president of the Worcester County Chapter beginning in 1932.

In 1947 he was elected to the Board of Trustees of the Institute, serving two five-year terms. He was elected to an unexpired term in 1960 and re-elected in June 1964 to a five-year term.

In 1959, Hossack received an honorary degree of doctor of engineering from W.P.I.

A registered professional engineer in New York, he was a life member of the American Society of Mechanical Engineers.

He leaves his wife, the former Miss Doris H. Andrews; a son, John E. Hossack, '46; a sister, Mrs. Myron Kingsbury; and three grandchildren.

Arthur Thomas Larned, '12

Arthur Thomas Larned, born August 12, 1889 at Worcester, Massachusetts; died July 18, 1964 at Rutherford, New Jersey.

Larned first joined Ebasco Services, Inc. in 1912 as a draftsman. He was

promoted through successive positions in both Ebasco and its subsidiaries and in 1936 he became chief civil and hydraulic engineer. In charge of design while in this position, he supervised the design for 16 hydroelectric stations and the circulating water systems for 107 thermal stations.

From 1955 to his retirement in 1960 he acted as a consulting civil engineer to Ebasco.

Larned received the James Croes Medal from the American Society of Civil Engineers in 1935. This award was given in recognition of his paper on "Actual Deflection and Temperature in a Trial Load Arch Dam; Ariel Hydro-Development." From W.P.I. he received the Robert H. Goddard Award for distinguished professional achievement in 1961 and in 1964 he was awarded an honorary doctor of engineering degree.

Larned played an important role in developing umbrella type generators, simplified bellmouths and intakes and bottle teeth for spillway discharge over dams. He belonged to the ASCE, U.S. Committee on Large Dams, Hydraulic Committee of the Edison Electric Institute, American Concrete Institute, American Society for Testing Materials, and the American Water Works Association. He was a registered professional engineer in 21 states and in the Municipality of Bombay, India.

He is survived by his wife, Mrs. Helen H. Larned; three sons, James E., George H. and Arthur T. Larned, Jr.; a sister, Miss Louise H. Larned; and a brother, Harold B. Larned, '05.

Edward P. Usher, Jr., '13

Edward P. Usher, Jr., born in 1890 at Grafton, Massachusetts; died June 9, 1964 at York, Maine.

Usher also attended Harvard University, where he was a member of the Class of 1912.

He operated the Sycamore Farm in Grafton, Massachusetts for 30 years before retiring in 1960 to Maine. He raised "Usher's Reds" and shipped them to poultry dealers throughout New England.

Usher was a former chairman of the Grafton Republican Town Committee.

He leaves his widow, Mrs. Gertrude K. Usher; four sons, Edward P. III, Gordon, Donald L., and Albert M. Usher; three grandchildren and four great-grandchildren.

William Sewall Titcomb, '19

William Sewall Titcomb, born October 16, 1895 at Kennebunk, Maine; died March 29, 1964.

He began his career with the Goodall Worsted Company in 1922 and in 1926 he became associated with Miller, Franklin Bassett & Company. He then worked for Pepperel Manufacturing Company for one year and in 1929 became superintendent at the Shoe Lace Company of Lawrence, Massachusetts. In 1948 he was elected assistant treasurer and manager of that firm and later vice president and assistant treasurer. He was named general foreman of the United Shoe Machinery Corporation in Beverly, Massachusetts in 1955, a position he held until retirement in 1960.

He married Miss Jessie Moore, who survives him, in 1937.

Ernest Leander Thayer, '20

Ernest Leander Thayer, born May 21, 1897 at Harrisville, Rhode Island; died May 9, 1964 at Wilmington, Delaware.

Thayer worked for Factory Mutual Fire Insurance Company for three years prior to joining E. I. duPont de Nemours & Company as a chemist in 1923. With duPont he became an explosives expert and was named general manager of the explosives department, Sao Paulo, Brazil, in 1944.

He was transferred to the advertising department in Wilmington in 1949 as assistant advertising manager for explosives. In 1952 he was named advertising manager for explosives, and in 1960 associate advertising manager. He retired in 1962.

He is survived by his wife, Mrs. Velma M. Thayer; a daughter, Miss Marion Louise Thayer; and a nephew, Donald Taylor, '49.

John Hayes Carter, '22

John Hayes Carter, born August 13, 1900 at Newton, Massachusetts; died May 22, 1964 at Webster Groves, Missouri.

Upon graduation, Carter worked for New England Telephone & Telegraph Company from 1922–24, and as an instructor at the University of Pennsylvania, where he also did graduate work, from 1924–26. In 1926 he moved to Evansville, Indiana and became associated with Servel, Inc.

Frick Company of Waynesboro, Pennsylvania employed him from 1934 until he entered the U.S. Navy in 1942. He saw service as a lieutenant in the Mediterranean during 1943–44 and at the time of his death held the rank of commander in the Reserve.

At the end of the war he co-founded the firm of Bodine and Carter, consulting engineers, in St. Louis. From 1948–55 he was a project engineer with Sverdrup and Parcel, Inc. of St. Louis and in 1955 he opened his own office as a consulting engineer. He rejoined Frick Company in 1957 as branch manager in St. Louis.

He is survived by his wife, Mrs. Beatrice C. Carter; two sons, John H., Jr. and Donald G. Carter; two brothers, Edward W. and Thomas W. Carter; and 11 grandchildren.

William Nathan Burr, Jr., '32

William Nathan Burr, Jr., born November 20, 1906 at Seekonk, Massachusetts; died in May 1963.

A structural engineer, Burr began his career as a surveyor in 1933 working for the Massachusetts Public Works Department. In 1940 he became senior engineering aide. He worked for General Municipal and Engine Works from 1943–47, when he became associated with United Engineers and Constructors.

In 1952 he worked for General Industries and in 1953 Piasecki Helicopter Company, now Vertol Company, Inc. He was with Scott Paper Company from 1955–56 and in 1958 started with Sun Shipbuilding and Drydock Company.

Jack Morgan Esten, '51

Jack Morgan Esten, born June 20, 1927 at Worcester, Massachusetts; died July 18, 1964 at Freehold, New Jersey.

Immediately after graduation, Esten worked for John A. Roebling's Sons in Trenton, New Jersey. He joined the sales training course at Norton Company in 1952 and was subsequently appointed an abrasive engineer for the firm in the southeast. In 1960 he transferred to the company's Teterboro, New Jersey office.

He served in the U.S. Military Police from 1944–46 at West Point.

Besides his parents, Mr. and Mrs. Eugene W. Esten, he leaves his widow, Mrs. Julanne J. Esten; a son, Guy M. Esten; and a daughter, Miss Gail F. Esten.

Augustine James Moran, '52

Augustine James Moran, born July 4, 1925 at Great Barrington, Massachusetts; died July 6, 1964 at Manchester, Connecticut.

Moran owned and operated an automotive sales and service station until 1955, when he joined Pratt & Whitney Aircraft as a machine tool engineer. In 1961 he became the district sales manager of the Machine Tool Division of Austin Hastings Company of Hartford.

Besides his mother, Mrs. Pierina Moran, he leaves his wife, Mrs. Jean B. Moran; a daughter, Miss Julie Ann Moran; two sons, James A. and Joseph A. Moran; and a brother, John Moran.

CENTENNIAL CONVOCATION - - HOMECOMING

October 8, 9 and 10

Friday—CENTENNIAL CONVOCATION, Worcester Auditorium
Speaker: DR. VANNEVAR BUSH

Saturday—HOMECOMING LUNCHEON and FOOTBALL GAME

9:30–11:00 a.m.	Coffee Hour, Morgan Hall Lounge, Alumni Wives presiding
12:15 p.m.	Homecoming Luncheon
2:00 p.m.	Soccer Game, W.P.I. vs. A.I.C.
2:00 p.m.	Football Game, W.P.I. vs. Bates
2:30 p.m.	Cross Country Meet, W.P.I. vs. Bates
4:30 p.m.	Refreshments in Morgan Hall Lounge and Fraternity Houses
6:30 p.m.	Dinner at Fraternity Houses
9:00 p.m.	Homecoming Dance, Alden Memorial Auditorium, and Awarding of Homecoming Trophy

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The distributor noted first, that the customer was dressing the wheel with a single-point diamond tool that was so sharp it actually dressed a thread on the wheel; he noticed also that the diamond was loose.

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